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AN ECONOMETRIC MODEL OF THE U.S. ECONOMY FOR INSTRUCTIONAL USE AT THE POSTGRADUATE SCHOOL

David Owen Rose

UATE SCHOOL

NAVAL POSTGRADUATE SCHOOL

Monterey, California

THESIS

AN ECONOMETRIC MODEL OF THE U.S. ECONOMY FOR INSTRUCTIONAL USE AT THE POSTGRADUATE SCHOOL

by

David Owen Rose

September 1974

Thesis Advisor: M. K. Block

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The Wharton econometric forecasting model originally developed by M. K. Evans and L. R. Klein was re-estimated and respecified in order to construct an instructional tool to be used at the Naval Postgraduate School. Special attention was devoted to price relationships.

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An Econometric Model of the U.S. Economy for Instructional Use at the Postgraduate School

by

David Owen Rose
Lieutenant, United States Navy
B.S., United States Naval Academy, 1969

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN OPERATIONS RESEARCH

from the

NAVAL POSTGRADUATE SCHOOL
September 1974

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ABSTRACT

The Wharton econometric forecasting model originally developed by M. K. Evans and L. R. Klein was re-estimated and respecified in order to construct an instructional tool to be used at the Naval Postgraduate School. Special attention was devoted to price relationships.

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I. INTRODUCTION

A current topic of great concern is the level of inflation which exists in the United States economy. In fact prices are currently rising at one of the highest rates in postwar history and much research has been initiated in both the civilian and governmental sectors to determine the cause and cure of this rapid inflation.

Since the Department of the Navy is a major consumer of many goods including raw materials, manpower, energy, and sophisticated weapon systems, the Navy has a direct interest in the rate of inflation. Moreover it should have the capability to evaluate predictions as to the composition and overall rate of inflation. In order to accomplish this task, it would be advisable for Naval officers to know the fundamentals of aggregate price level determination.

One place that a Naval officer may obtain the relevant training in price level determination is in the macroeconomic workshop conducted at the Naval Postgraduate School. The purpose of this thesis is to provide a large scale econometric model to be used at the Postgraduate School and specifically in the macroeconomic workshop. It is anticipated that this model will enable the officer student to better understand the structure of the U. S. economy.

The development of this model consisted of re-estimating and respecifying a model previously developed by Klein

and Evans at Wharton [6]. It was necessary to respecify the model because after the initial re-estimation it was discovered that most of the price relationships developed by Klein and Evans no longer appeared valid.

Chapter II deals with the simulation of the original Wharton model. The re-estimation of the entire model and the respecification of all relationships except those concerned with prices is contained in Chapter III. The re-specified and re-estimated price relationships as well as a brief review of alternative approaches to modeling price changes are discussed in Chapter IV.

II. INITIAL SIMULATION

The impetus for this thesis was provided by the results of a study conducted in an advanced macroeconomic workshop at the Naval Postgraduate School. The goal of the workshop was to examine the effect of selected fiscal and monetary policy changes on the U. S. economy through the use of an econometric game developed by the Wharton School of Finance and Commerce, University of Pennsylvania [6]. The econometric game utilized the Wharton Econometric Forecasting Model developed by Michael K. Evans and Lawrence R. Klein [3]. This Klein-Evans model is a quarterly econometric forecasting model of the U. S. economy estimated between 1948 and 1964.

Since the objective of the workshop was to examine the impact of current and future economic policies, the first step was to determine the accuracy of the model for post 1964 economic activity. A simulation was conducted for the period of 1960.1 through 1973.4. Although this period is admittedly quite long for the purposes of forecasting, it was thought that such a long period would make any major structural shifts that would call for re-estimation readily apparent.

Current dollar GNP was thought to be a representative indicator for the accuracy of the model since it is determined by all sectors of the economy. A cursory examination of Figure II-1 and Table II-1 reveals that, using the

original model, the predicted values of current dollar GNP are within ten percent of the actual values through the first twenty quarters of the simulation and are actually more accurate than one would expect though fifty quarters of simulation. However, further examination of the results reveals that the apparent accuracy in forecasting current dollar GNP is due to large complementary prediction errors in the constant dollar GNP, X, and the GNP deflator, p, as evident in Figures II-2, 3 and Tables II-2, 3.

It was also noted by the author that within individual sectors such as investment and consumption, large prediction errors were also prevalent. Therefore, based on its performance, it was decided that the original model required re-estimation. This was undertaken in order to correct the original econometric game, as formulated by Klein and Evans, to a currently useful instructional tool. After re-estimating the original model, adjustments were made to improve both the forecasting power of the model and to insure that all economic relationships were consistent with existing theory.

PRED.	ACTUAL	ERROR	PERCENT
512.030	500.400	11.630	2.324
563.746	504.100	59.646	11.832
554.077	503.500	50.577	10.045
562.046	502.100	59.946	11.939
562.641	501.400	61.242	12.214
554.014	513.900	40.115	7.806
546.368	522.400	23.969	4.588
555.815	536.900	18.916	3.523
563.056	547.800	15.257	2.785
568.625	557.200	11.426	2.051
567.667	564.400	3.267	0.579
550.723	572.000	-21.277	- 3.720
538.164	557.400	-19.236	- 3.451
529.985	584.200	-54.215	- 9.280
530.944	594.700	-63.756	-10.721
537.497	605.800	-68.302	-11.275
544.759	617.700	-72.941	-11.808
548.023	628.000	-79.977	-12.735
552.309	638.900	-86.591	-13.553
557.502	645.100	-87.597	-13.579
551.427	662.800	-111.373	-16.803
571.349	675.700	-104.351	-15.443
614.059	691.100	-77.041	-11.148
616.593	710.000	-93.407	-13.156
639.206	729.500	-90.294	-12.378
675.802	743.300	-67.497	- 9.081
688.576	755.900	-67.323	- 8.906
699.976	770.700	-70.724	- 9.177
720.075	774.400	-54.324	- 7.015
724.693	784.500	-59.807	- 7.624
713.186	800.900	-87.713	-10.952
703.244	815.900	-112.656	-13.808
723.258	834.000	-110.742	-13.278
771.858	857.800	-85.941	-10.019
839.519	875.200	-35.681	- 4.077
848.180	890.200	-42.020	- 4.720
756.697	907.000	-150.303	-16.571
732.299	923.500	-191.201	-20.704
810.835	941.700	-130.865	-13.897
856.801	948.900	-92.099	- 9.706
987.491	958.500	28.991	3.025
1069.929	970.600	99.329	10.234
1059.058	987.400	71.658	7.257
984.786	991.800	-7.014	-0.707
913.050	1027.200	-114.150	-11.113
930.373	1046.900	-116.527	-11.131

Table II-1. Predicted and Actual Values of GNP.

Table II-1. Continued

1020.232	1063.500	-43.268	-4.068
1021.967	1084.200	-62.233	-5.740
1040.999	1112.500	-71.501	-6.427
1245.382	1142.400	102.983	9.015
1267.233	1166.500	100.733	8.636
1369.781	1199.200	170.581	14.225
1760.094	1242.500	517.594	41.657
2466.245	1272.000	1194.245	93.887
3101.863	1304.500	1797.363	137.782
3959.507	1337.500	2622.007	196.038

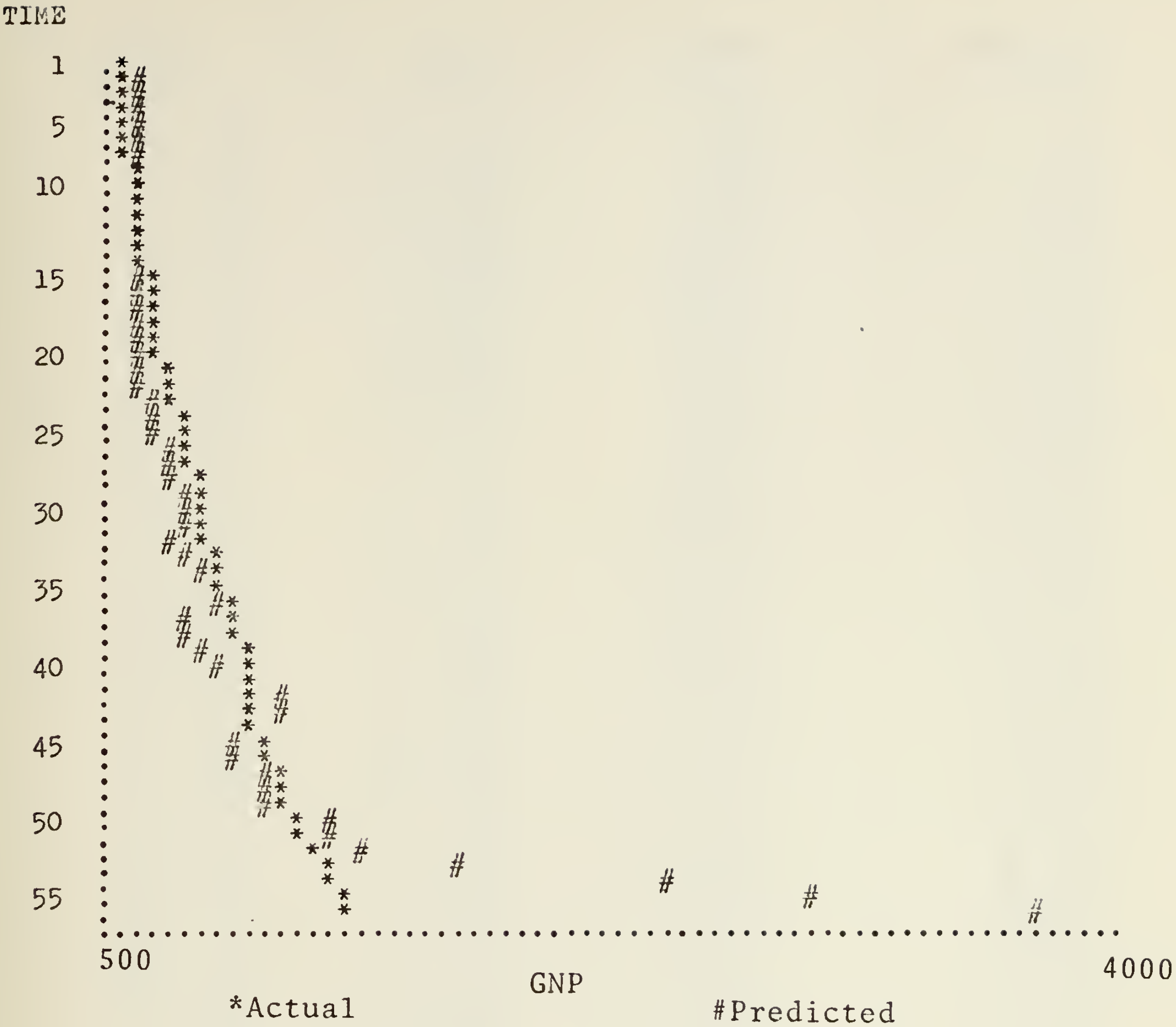
TIME
1
5
10
15
20
25
30
35
40
45
50
55
500
4000
GNP
*Actual
#Predicted

Figure II-1.

PRED.	ACTUAL	ERROR	PERCENT
429.474	428.100	1.375	0.321
443.859	426.000	17.859	4.192
428.183	422.300	5.883	1.393
422.730	415.800	6.930	1.667
412.361	423.300	-10.939	-2.584
398.949	430.000	-31.051	-7.221
389.383	438.700	-49.316	-11.241
386.945	442.900	-55.955	-12.634
384.481	441.200	-56.719	-12.856
383.364	447.700	-64.336	-14.370
376.556	451.700	-75.144	-16.636
363.296	453.700	-90.404	-19.926
354.053	454.500	-100.447	-22.101
345.124	457.200	-112.076	-24.514
342.179	463.600	-121.420	-26.191
341.229	467.200	-125.970	-26.963
340.343	472.900	-132.557	-28.031
338.665	477.800	-139.135	-29.120
336.053	481.100	-145.047	-30.149
333.931	481.100	-147.168	-30.590
328.696	489.100	-160.403	-32.796
334.184	494.100	-159.915	-32.365
347.872	502.500	-154.628	-30.772
347.072	511.600	-164.527	-32.159
354.570	517.900	-163.330	-31.537
364.516	518.000	-153.484	-29.630
367.719	518.000	-150.281	-29.012
371.191	519.600	-148.408	-28.562
377.065	514.900	-137.835	-26.769
377.230	516.100	-138.870	-26.908
370.802	516.800	-145.998	-28.250
365.157	516.000	-150.843	-29.233
370.378	515.400	-145.021	-28.138
383.712	519.700	-135.988	-26.167
400.085	519.300	-119.214	-22.957
400.429	516.500	-116.071	-22.473
369.806	515.800	-145.993	-28.304
357.078	511.200	-154.122	-30.149
372.724	506.100	-133.375	-26.354
384.573	496.700	-112.127	-22.574
415.630	486.200	-70.570	-14.515
427.475	481.400	-53.925	-11.202
417.764	480.200	-62.436	-13.002
394.254	467.700	-73.446	-15.704
371.268	471.100	-99.832	-21.191
371.976	469.500	-97.524	-20.772
393.878	470.300	-76.422	-16.250

Table II-2. Predicted and Actual Values of X.

Table II-2. Continued

395.156	475.900	-80.743	-16.966
397.225	475.200	-77.975	-16.409
434.045	484.100	-50.054	-10.340
434.419	487.600	-53.181	-10.907
455.725	493.100	-37.375	-7.580
518.550	496.000	22.550	4.546
624.556	490.300	134.257	27.383
706.334	486.000	220.334	45.336
798.498	477.800	320.699	67.120

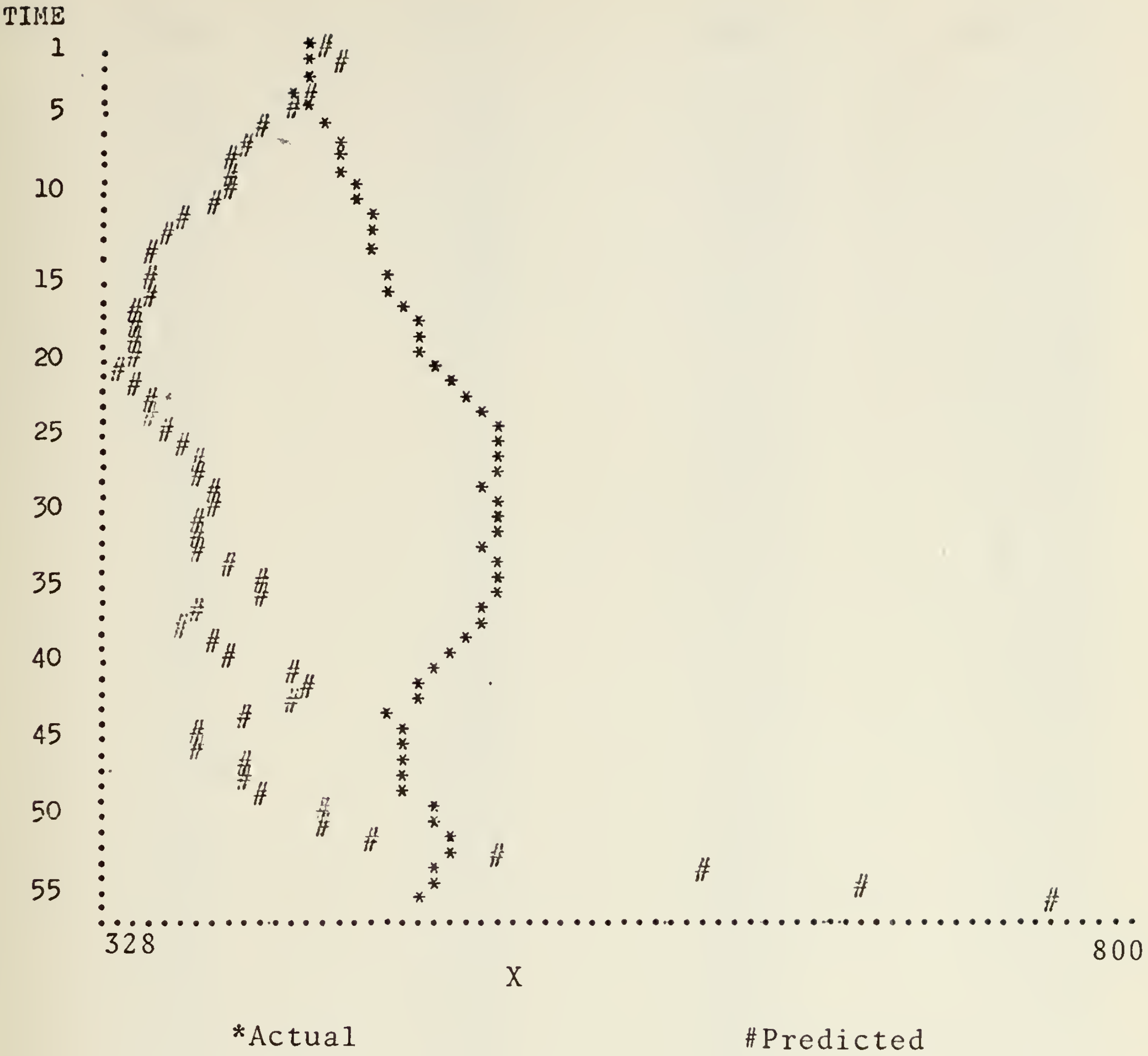

Figure II.2.

PRED.	ACTUAL	ERROR	PERCENT
1.192	1.145	0.047	4.119
1.270	1.150	0.120	10.432
1.294	1.154	0.140	12.157
1.329	1.161	0.168	14.510
1.364	1.164	0.200	17.212
1.389	1.166	0.223	19.117
1.403	1.166	0.237	20.356
1.436	1.173	0.263	22.439
1.464	1.177	0.287	24.409
1.483	1.179	0.304	25.786
1.508	1.181	0.327	27.662
1.516	1.186	0.330	27.836
1.520	1.191	0.329	27.647
1.536	1.194	0.342	28.638
1.552	1.196	0.356	29.744
1.575	1.203	0.372	30.922
1.600	1.208	0.392	32.489
1.618	1.211	0.407	33.601
1.643	1.218	0.425	34.931
1.669	1.223	0.446	36.508
1.678	1.230	0.448	36.394
1.710	1,235	0.475	38.430
1.765	1.239	0.526	42.464
1.776	1.244	0.532	42.803
1.803	1.253	0.550	43.865
1.854	1.265	0.589	46.546
1.872	1.275	0.597	46.855
1.886	1.286	0.600	46.623
1.909	1.295	0.614	47.450
1.921	1.301	0.620	47.642
1.924	1.314	0.610	46.391
1.926	1.327	0.599	45.157
1.953	1.344	0.609	45.281
2.011	1.357	0.655	48.243
2.098	1.371	0.727	52.999
2.118	1.387	0.731	52.723
2.046	1.401	0.645	46.038
2.051	1.420	0.631	44.415
2.175	1.441	0.734	50.928
2.228	1.461	0.767	52.516
2.376	1.484	0.892	60.083
2.503	1.500	1.003	66.861
2.535	1.515	1.020	67.364
2.498	1.538	0.959	62.362
2.459	1.561	0.899	57.577
2.501	1.577	0.924	58.550
2.590	1.589	1.001	63.038

Table II-3. Predicted and Actual values of p.

Table II-3. Continued

2.586	1.595	0.992	62.188
2.621	1.617	1.004	62.109
2.869	1.623	1.246	76.775
2.197	1.634	1.283	78.489
3.005	1.648	1.358	82.401
3.394	1.672	1.722	102.988
3.949	1.702	2.247	132.062
4.391	1.731	2.661	153.741
4.958	1.767	3.191	180.539

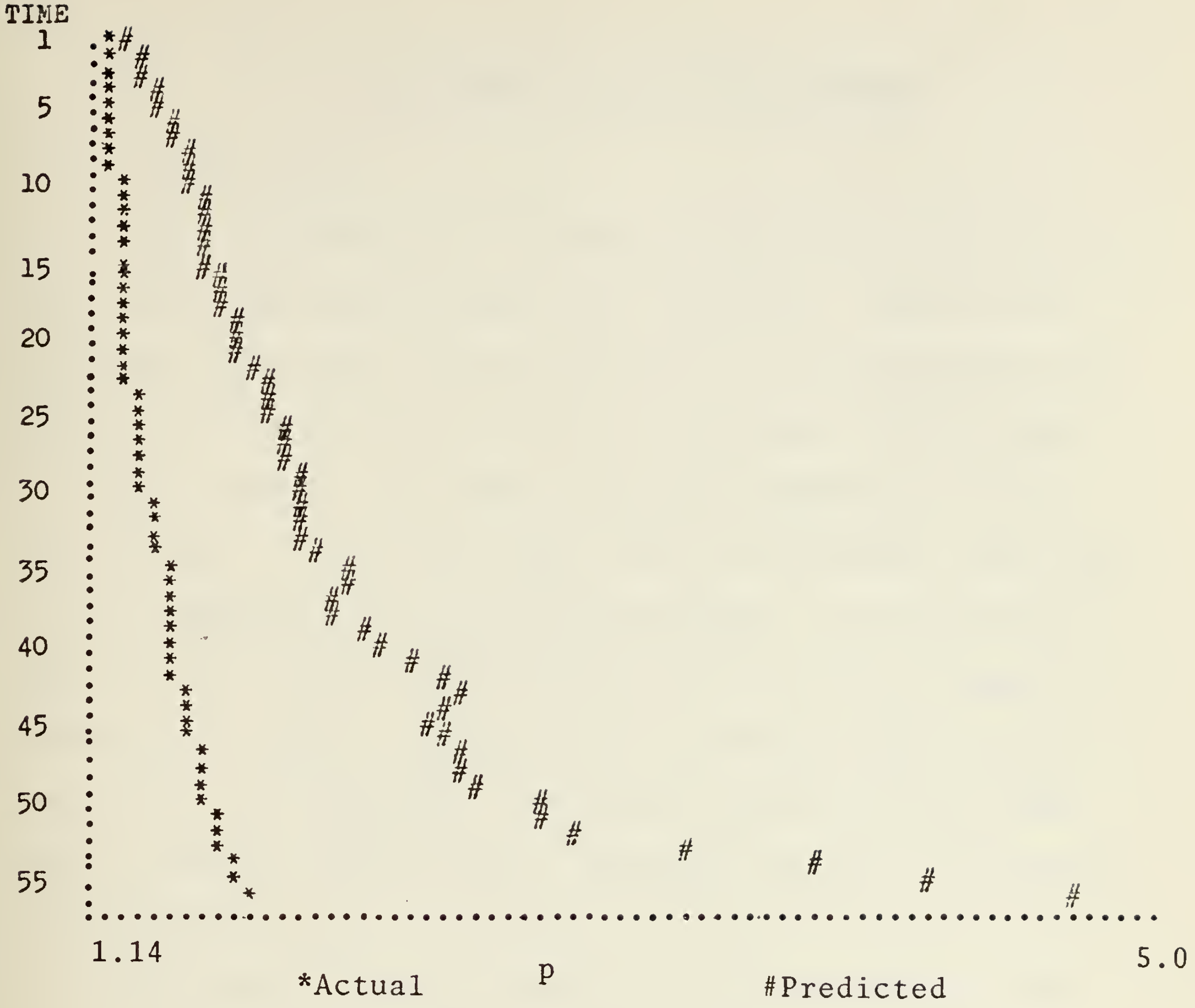

Figure II-3.

III. RE-ESTIMATION AND SPECIFICATION

A. RE-ESTIMATION

The re-estimation of the Wharton model was performed for the period between 1960 and 1971 inclusive. The only adjustments that were initially made were (1) the removal of dummy variables that referred to Korean War activity and (2) the removal of one dummy variable concerning credit conditions.[1] The actual model to be re-estimated consisted of 36 equations involving 48 observations on 86 variables.[2] The list of variable definitions and data sources appear in Appendix B. Actual values of the variables appear in Appendix C. The regression technique applied was two stage least squares with principal components which is explained in Appendix A.

The results of the estimation are listed below. The estimated standard error of each coefficient appears directly below that coefficient. Also below each equation are the multiple correlation coefficient, $\overline{R}^2$, the standard error of the estimate, S_e, and the Durbin-Watson test statistic for serial correlation, d.

---

[1] The Korean War dummy variables that were deleted are d_{KW}, d_S, and d_{UW}. The dummy variable reflecting credit conditions which was constant throughout the period of re-estimation is Cr. (Variable definitions appear in Appendix B.)

[2] The only other adjustment made was the use of 1958 as a base year rather than 1954 in order to ease data collection and conversion.

1. $$I_{pm} = -25.81 + \underset{(.060)}{.361}\,\frac{C_{p-1} + C_{p-2}}{2} + \underset{(.012)}{.073}\,\frac{NI_{m-5} + NI_{m-6}}{2}$$

$$+ \underset{(.094)}{.083}\,\frac{L_{m-5} + L_{m-6}}{2} + \underset{(10.63)}{32.03}\,(p_w - p_{w-4})$$

$\bar{R}^2$	S_e	d
.987	.9842	0.82

2. $$I_{pn} = 6.28 + \underset{(.034)}{.337}\,(Z_{-1} - Z_{-4}) + \underset{(.006)}{.109}\,Z_{-5} + \underset{(.376)}{.968}\,i_{L-5}$$

$\bar{R}^2$	S_e	d
.9827	1.8394	1.86

3. $$I_{pf} = .334 + \underset{(.060)}{.238}\,\frac{1}{3}(FF_{-3} + FF_{-4} + FF_{-5}) - \underset{(.062)}{.002}\,K_{f-4} + \underset{(2.134)}{.608}\,p_f$$

$\bar{R}^2$	S_e	d
.4574	.397	0.73

4. $$I_h = .960 + \underset{(.0041)}{.0035}Y + \underset{(7.16)}{17.92}(p_h/p_r)_{-3} + \underset{(.306)}{2.55}(i_L - i_s)_{-3}$$

$\bar{R}^2$	S_e	d
.6231	1.5358	0.77

5. $$\Delta I_{im} = -2.47 + \underset{(.0038)}{.162}S_{-1} - \underset{(.026)}{.093}\,K_{im-2} - \underset{(.026)}{.0046}\Delta U_{-1}$$

$$+ \underset{(.017)}{.00428}(U_{-2} - U_{-4}) + \underset{(.158)}{.179}\,STR$$

$\bar{R}^2$	S_e	d
.4015	.4730	1.80

6. $$\Delta I_{in} = \underset{(.164)}{11.05} + .535C_{d_{-1}} - \underset{(.224)}{.642}K_{in_{-2}} + \underset{(.241)}{.322}\Delta NI_{m} - \underset{(62.44)}{129.45}(p_{w} - p_{w_{-2}})$$

$\overline{R}^2$	S_e	d
.1973	3.0574	1.46

7. $$\Delta I_{if} = .145 + \underset{(.107)}{.756}\, I_{if_{-1}} - \underset{(1.77)}{3.28}(p_{f-1} - p_{f-2})$$

$\overline{R}^2$	S_e	d
.5085	.4296	1.39

8. $$\Delta U = -.266 + \underset{(.120)}{.047}\Delta S + \underset{(59.05)}{78.33}\Delta p_{w} + \underset{(.161)}{.426}\Delta G_{d}$$

$\overline{R}^2$	S_e	d
.0973	1.5241	1.24

9. $$\frac{C_{ns}}{Y} = .186 - \underset{(.129)}{.257}\left[\frac{\Delta Y}{Y} + .75\left(\frac{\Delta Y}{Y}\right)_{-1} + .50\left(\frac{\Delta Y}{Y}\right)_{-2} + .25\left(\frac{\Delta Y}{Y}\right)_{-3}\right] + \underset{(.038)}{1.011}\,\frac{1}{4}\sum_{i=1}^{4}\left(\frac{C_{ns}}{Y}\right)_{-i}$$

$\overline{R}^2$	S_e	d
.9393	.0057	1.27

10. $$C_{na} = 182.43 + \underset{(.0055)}{.0074}Y - \underset{(9.86)}{162.07}(p_{na}/p_{c})$$

$\overline{R}^2$	S_e	d
.9658	1.6754	1.28

11. $$C_a = -116.53 + \underset{(.067)}{.136}(Y-Tr/p_c) + \underset{(75.96)}{85.82}\, p_a/p_c + \underset{(.040)}{.042}\, K_{a-1} - \underset{(.590)}{.194}Un$$

$\bar{R}^2$	S_e	d
.8996	2.3817	1.40

12. $$F_i = -1.39 + \underset{(.0014)}{.034}Y + \underset{(.031)}{1.07}\,\frac{1}{4}\sum_{j=1}^{4}(F_i)_{-j}$$

$\bar{R}^2$	S_e	d
.9875	.5368	1.41

13. $$F_e = 5.21 + \underset{(.012)}{.037}X_{wt} - \underset{(6.71)}{6.50}p_{wt}/p_e + \underset{(.136)}{.575}\,\frac{1}{4}\sum_{i=1}^{4}(F_e)_{-i}$$

$\bar{R}^2$	S_e	d
.9739	.7643	1.59

14. $$P_{cb} = -100.27 + \underset{(.0056)}{.079}pX + \underset{(.194)}{2.36}Cp - \underset{(.238)}{1.03}\,\frac{\frac{1}{2}Cp_{-2} + \sum_{i=3}^{5}Cp_i + \frac{1}{2}Cp_{-6}}{4} - \underset{(50.00)}{64.79}(p_w - p_{w-4})$$

$\bar{R}^2$	S_e	d
.9363	3.579	1.00

15. $$Dv = 1.86 + \underset{(.012)}{.027}(P_{ca} + D_m + D_n) + \underset{(.121)}{.733}\,\frac{1}{4}\sum_{i=1}^{4}(Dv)_{-i}$$

$\bar{R}^2$	S_e	d
.9753	.5571	1.04

16. $$PRI = -3.44 + \underset{(.061)}{.087}(\Delta pX + .75\Delta pX_{-1} + .5\Delta pX_{-2} + .25\Delta pX_{-3}) + \underset{(.022)}{1.05}\ \frac{1}{4}\sum_{i=1}^{4}(PRI)_{-i}$$

$\overline{R}^2$	S_e	d
.9930	2.850	.74

17. $$IVA = .115 - \underset{(67.72)}{449.38}\Delta p_w - \underset{(41.21)}{11.61}\Delta p_{w-1}$$

$\overline{R}^2$	S_e	d
.6350	1.3752	1.50

18. $$NI_m = -43.68 + \underset{(.185)}{.270}C_{ns} + \underset{(.520)}{1.52}C_d + \underset{(.332)}{.756}\Delta I_i + \underset{(.119)}{.480}G_d$$

$\overline{R}^2$	S_e	d
.9889	4.0994	1.42

19. $$RE_m = -11.10 + \underset{(.048)}{.647}RE - \underset{(.006)}{.021}(NI_m \cdot p_w)$$

$\overline{R}^2$	S_e	d
.8145	1.7451	1.39

20. $$N_e = 5.99 - \underset{(.029)}{.040}X_p + \underset{(.00031)}{.00067}K \cdot Cp - \underset{(.086)}{.166}Cp + \underset{(.190)}{.955}\ \frac{1}{4}\sum_{i=1}^{4}(N_e)$$

$\overline{R}^2$	S_e	d
.9826	.5442	1.53

21. $$D_m = 2.92 + \underset{(.008)}{.157}(p_k \cdot K_m) + \underset{(.347)}{1.78}d_1$$

$\overline{R}^2$	S_e	d
.9679	.8769	.22

22. $$D_n = -18.78 + \underset{(.021)}{.328}(p_k \cdot K_n) + \underset{(2.49)}{6.27}d_1$$

$\bar{R}^2$	S_e	d
.9481	5.9031	1.15

23. $$D_f = .572 + \underset{(.0055)}{.113}(p_k \cdot K_f)$$

$\bar{R}^2$	S_e	d
.9007	.2618	.30

24. $$D_h = -4.11 + \underset{(.0033)}{.112}(p_h \cdot K_n)$$

$\bar{R}^2$	S_e	d
.9604	.3525	.63

25. $$T_b = 6.22 - \underset{(.0049)}{.0023}NI + \underset{(.052)}{.164}t$$

$\bar{R}^2$	S_e	d
.8873	.6941	.57

26. $$T_c = 2.08 + \underset{(.029)}{.381}(P_{cb} - IVA)$$

$\bar{R}^2$	S_e	d
.7849	3.0540	.40

27. $$T_p = -9.00 + \underset{(.0054)}{.133}(PI - Tr)$$

$\bar{R}^2$	S_e	d
.9278	5.1243	.24

28. $$Tr = -76.26 + \underset{(.548)}{5.48}Un + \underset{(.039)}{1.22}t$$

$\bar{R}^2$	S_e	d
.9550	3.2551	.53

29. $$p_w = .153 + \underset{(.107)}{.478}\frac{W}{X} + \underset{(.00024)}{.00026}Cp + \underset{(.137)}{.561}\frac{1}{4}\sum_{i=1}^{4}(p_w)_{-i}$$

$\bar{R}^2$	S_e	d
.9918	3.2551	1.00

30. $$\Delta p_{ns} = .0033 + \underset{(.164)}{.961}\Delta p_w + \underset{(.097)}{.106}\Delta p_{w-1} + \underset{(.025)}{.0165}\Delta p_f$$

$\bar{R}^2$	S_e	d
.6455	.0032	1.79

31. $$\Delta p_{na} = -.0026 + \underset{(1.20)}{2.49}\Delta p_w - \underset{(.733)}{1.501}\Delta p_{w-1}$$

$\bar{R}^2$	S_e	d
.0617	.0245	1.83

32. $$\Delta p_k = .046 + \underset{(.156)}{1.096}\Delta p - \underset{(.248)}{.337}\frac{I_p}{X}$$

$\bar{R}^2$	S_e	d
.7103	.0053	2.06

33. $$\Delta p_h = -.0038 + \underset{(.484)}{1.024}\Delta p_k + \underset{(.535)}{.136}\frac{I_h}{X}$$

$\bar{R}^2$	S_e	d
.1867	.0106	1.76

$$34. \quad \Delta p_e = .0024 + \underset{(.604)}{.274\Delta p_w} + \underset{(.368)}{.481\Delta p_{w-1}}$$

$\bar{R}^2$	S_e	d
.0575	.0123	2.32

$$35. \quad i_s = -2.13 + \underset{(.167)}{1.06 i_d} + \underset{(.133)}{.240 RR_{-1}} + \underset{(.089)}{.431 i_{s-1}}$$

$\bar{R}^2$	S_e	d
.9482	.3678	1.02

$$36. \quad i_L = .0095 + \underset{(.031)}{.130 i_s} + \underset{(.032)}{.896 i_{L-1}}$$

$\bar{R}^2$	S_e	d
.9850	.1751	1.69

As is readily apparent many of the estimated equations have serious defects. These faults can be categorized into three areas: (1) low multiple correlation coefficients, $\bar{R}^2$; (2) high standard errors relative to the estimated coefficients; and (3) signs of coefficients which appear to contradict economic theory. In an attempt to improve the total equation system various adjustments were applied to individual equations within the system. Only the equations that were redefined or respecified are addressed in the following section.

B. RESPECIFICATION

In Eqn. (2), which reflects non-manufacturing, non-farm fixed business investment, it was noted that the average yield

on corporate bonds lagged five quarters, i_{L-5}, had a positive affect. From economic theory one would predict that the sign of the interest coefficient would be negative and since there was no justification in the original model for a five quarter lag, the equation was re-estimated twice using i_{L-3} and i_{L-4}. Both i_{L-3} and i_{L-4} had negative coefficients but i_{L-4} was found to have more explanatory power. The resulting equation is listed below.

$$I_{pn} = 5.96 + \underset{(.096)}{.293}(Z_{-1} - Z_{-4}) + \underset{(.012)}{.140}Z_{-6} - \underset{(.639)}{.984}i_{L-4}$$

$\overline{R}^2$	S_e	d
.9199	2.6896	1.09

In Eqn. (3), which estimates farm fixed business investment, the t-statistics for the coefficients of both the capital stock of farm investment lagged four quarters, K_{f-4}, and the prices received by farmers, p_f, were below acceptable values. The equation was re-estimated substituting p_{f-1} for p_f and adding an additional variable, time, which now appears in the revised Wharton model [8].

$$I_{pf} = 5.11 + \underset{(.062)}{.069}\frac{1}{3}(FF_{-3} + FF_{-4} + FF_{-5}) - \underset{(.065)}{.235}K_{f-4}$$

$$+ \underset{(1.08)}{1.69}p_{f-1} + \underset{(.012)}{.061}t$$

$\overline{R}^2$	S_e	d
.7290	.3151	.97

Eqn. (4) estimates residential construction expenditures. The "t" statistic for the coefficient of Y, personal disposable income, was quite low and the sign of the coefficient for the variable $(p_h/p_r)_{-3}$, the deflator of residential construction divided by the price of rent index, was opposite of that expected. The equation was re-estimated with the deletion of $(p_h/p_r)_{-3}$ in order to eliminate the multicollinearity between Y and $(p_h/p_r)_{-3}$.

$$I_h = 13.97 + \underset{(.0031)}{.018Y} + \underset{(.286)}{2.53}(i_L - i_s)_{-3}$$

$\bar{R}^2$	S_e	d
.6482	1.4878	1.01

Eqn. (5) which predicts ΔI_{im}, manufacturing investment, was adjusted due to the elimination of the variable U, unfilled orders, which will be addressed later in this section. Also, after several attempts to achieve a satisfactory re-estimation for Eqn. (6), which estimates ΔI_{in}, nonmanufacturing and nonfarm inventory investment, it was decided that Eqn. (5) and Eqn. (6) should be combined. This measure facilitated a more accurate estimation of overall non-farm inventory investment.

$$\Delta I_{im} + \Delta I_{in} = .0312 + \underset{(.0427)}{.0997}X_p - \underset{(.094)}{.483}(K_{im} + K_{in}) + \underset{(.211)}{.255}C_{d-1}$$

R^2	S_e	d
.3678	2.933	1.41

Eqn. (7) was adjusted due to the negative sign of the coefficient of $(p_{f-1} - p_{f-4})$, the change in the prices received by farmers, which was contrary to the affect of Δp_f on I_{if}, farm inventory investment, that one would expect from economic theory. Since there appeared to be no justification for the lag structure nor the requirement for the use of the change in the prices received by farmers, the variable p_f was substituted for Δp_f. Various lags were applied on p_f. And it was discovered that a three quarter lag on p_f had the most explanatory power.

$$\Delta I_{if} = -.993 + \underset{(.110)}{.725}\Delta I_{if-1} + \underset{(1.15)}{1.115}p_{f-3}$$

$\bar{R}^2$	S_e	d
.4816	.4412	1.43

As stated previously the variable U, unfilled orders, which appeared as the dependent variable in Eqn. (8) was deleted from the system. Although there was some question as to the accuracy of the data due to reporting procedures, the major reason for deletion was the fact that since U only appeared as an explanatory variable in Eqn (5) and in that equation it had an extremely low "t" statistic and therefore was not considered essential to the model.

Eqn. (10) which estimates C_{na}, consumer purchases of durables except automobiles and parts, was adjusted due to the low "t" statistic associated with the coefficient of Y, personal disposable income. The first adjustment involved

removing the effect of transfer payments by substituting the variable $(Y - Tr/p_c)$ for Y. However this led to a low statistic for the coefficient of p_{na}/p_c. It was thought that the unemployment rate, Un, might have a similar effect on C_{na}, consumer purchases of automobiles and parts, so it was added as an explanatory variable as was C_{na-1} which appeared in the Wharton Mark III Econometric Forecasting Model [8]. The variable p_{na}/p_c was deleted due to a low "t" statistic associated with its coefficient. It is interesting to note that throughout the process of re-estimation it became apparent that price relationships, such as p_{na}/p_c, no longer had the explanatory power they once possessed.

$$C_{na} = 11.39 + \underset{(.019)}{.087}(Y - Tr/p_c) - \underset{(.153)}{.210}Un + \underset{(.136)}{.387}C_{na-1}$$

$\bar{R}^2$	S_e	d
.9913	.8449	1.45

Eqn. (11) was adjusted mainly due to the positive signs on the coefficients of p_a/p_c and K_{a-1}, the capital stock of automobiles and parts, which were contrary to economic theory but also due to the relatively low "t" statistics associated with the coefficients of the two previously mentioned variables and that of Un.

$$C_a = -17.21 + \underset{(.670)}{11.38}(Y - Tr/p_c) - \underset{(.4071)}{.4069}Un$$

$\bar{R}^2$	S_e	d
.9003	2.3741	1.26

The equation for F_e, exports of goods and services, Eqn. (13) was adjusted by once again eliminating a price relationship p_{wt}/p_e due to the low "t" statistic associated with its coefficient.

$$F_e = 1.56 + \underset{(.011)}{.039}X_{wt} + \underset{(.136)}{.600}\,\frac{1}{4}\sum_{i=1}^{4}(F_e)_{-i}$$

$\overline{R}^2$	S_e	d
.9722	.7643	1.64

Eqn. (14) which estimates P_{cb}, corporate profits before taxes and after inventory valuation adjustment, was adjusted by the deletion of $(p_w - p_{w-4})$, a change in the wholesale price index, which had a coefficient with a low "t" statistic and a sign contrary to economic theory.

$$P_{cb} = -95.23 + \underset{(.0039)}{.074}pX + \underset{(.195)}{2.38}Cp$$

$$- \underset{(.238)}{1.07}\,\frac{\frac{1}{2}\,Cp_{-2} + \sum_{i=3}^{5} Cp_{-i} + \frac{1}{2}\,Cp_{-6}}{4}$$

$\overline{R}^2$	S_e	d
.9354	3.6066	1.13

The variable Δp_{w-1} was deleted in Eqn. (17) due to the low "t" statistic associated with its coefficient.

$$IVA = .120 - \underset{(50.01)}{462.09}\Delta p_w$$

$\overline{R}^2$	S_e	d
.6422	1.3614	1.48

Eqn. (19) which estimates RE_m, retained earnings in the manufacturing sector, was adjusted by deleting the variable $(NI_m \cdot p_w)$, the national income in the manufacturing sector. There was difficulty in interpreting $(NI_m \cdot p_w)$ since NI_m, which is measured in current dollars, was multiplied by the wholesale price index. This calculation, in effect appears to compound price changes in the manufacturing sector.

$$RE_m = 8.98 + \underset{(.044)}{.551RE}$$

$\bar{R}^2$	S_e	d
.7670	1.9557	0.99

Eqn. (20) which estimates N_e, the number of employees in the private sector, was adjusted by the deletion of X_p, GNP generated in the private sector, and Cp, the index of capacity utilization. Both deletions were due to the low explanatory power and the negative signs associated with their coefficients which from economic theory one would predict to be positive. Also there was a high degree of correlation between Cp and K·Cp, the total capital stock times the index of capacity utilization.

$$N_e = 1.85 + \underset{(.00004)}{.00010K \cdot Cp} + \underset{(.041)}{.926}\, \frac{1}{4} \sum_{i=1}^{4} (N_e)_{-i}$$

$\bar{R}^2$	S_e	d
.9820	.5546	1.51

An initial observation of Eqn. (25) revealed an economic anomaly. Briefly stated the equation implied that if NI,

national income, goes up then T_b, indirect business taxes and transfers, should go down. However, there was a change in the federal indirect tax rates in 1965.3. In order to account for this, Wharton has since implemented the use of a dummy variable, d_T, times the national income for the period after 1965.3 [8]. That methodology was also applied in this re-estimation.

$$T_b = 2.40 + \underset{(.0034)}{.008NI} + \underset{(.033)}{.156t} - \underset{(.0005)}{.0040d_T \cdot NI}$$

$\overline{R}^2$	S_e	d
.9533	.4467	1.67

Equation (35) predicts i_s which is the interest rate on prime commercial paper. It was observed that when RR_{-1}, the ratio of excess to required reserves lagged one quarter, went up that it had a positive impact on i_s. Clearly this behavior is contrary to economic theory. Further examination revealed that RR_{-1} had very high negative correlation with both i_d, the Federal Reserve discount rate, and i_{s-1}, during the period of this estimation which accounted for the positive coefficient. RR_{-1} was removed from the equation as was i_{s-1}.

$$i_s = -1.51 + \underset{(.245)}{1.35i_d}$$

$\overline{R}^2$	S_e	d
.9226	.4520	0.62

The adjustments and estimation attempts applied to the price equations appear in the following section.

IV. PRICE RELATIONSHIPS

The previous section dealt with adjustments to all the equations in the Wharton model except those which predicted changes in the price deflators.

The United States economy is currently experiencing one of the highest inflation rates in its postwar history. This phenomenon is of great concern to all elements of the Departments of Defense and the Navy. Since the peak of the conflict in Vietnam, the DoD budget has been steadily reduced in constant dollars and yet at the same time prices for all products have continued to spiral upward. As elements of DoD have been forced to make cutbacks in both personnel and equipment, it has become apparent that in order to propose force structures for the future, the planning divisions within the Pentagon must be aware of future rates of inflation.

An examination of the price equations, Eqn. (29) through Eqn. (34), revealed that the predictive power of many of the relationships was poor at best. This chapter deals with the author's respecification and re-estimation of the original Klein-Evans equations. Also provided in this chapter is a review of several other theoretical and econometric price relationships.

Equation (29) which deals with p_w, the wholesale price index, was not adjusted. All the coefficients had the signs one would expect from economic theory and its predictive

power was considered satisfactory due to its high multiple correlation coefficient, $\bar{R}^2$.

The equation which estimated Δp_{ns}, the change in the deflator for consumer purchases of nondurables and services, also was not adjusted. Although the "t" statistic for the coefficient of Δp_f, the change in the prices received by farmers, was quite low, it was thought that since farm products make up a large percentage of nondurables that Δp_f should remain in the equation.

A. RESPECIFICATION

Equation (31) estimates Δp_{na}, the change in consumer purchases of durables except automobiles and parts. Initial examination of the results of the re-estimation revealed a very low adjusted multiple correlation coefficient (.0617) and a negative sign for the coefficient of Δp_{w-1} which appeared contrary to economic theory. The first adjustment to the equation involved the deletion of the current change in the wholesale price index, Δp_w, and the addition of two explanatory variables, $(U/S)_{-1}$, the ratio of unfilled orders to total sales in the private sector, and $(T_b/C_{na})_{-1}$, the ratio of indirect business taxes to consumer purchases of nondurables except automobiles and parts. The later variable is also present in the current Wharton Econometric model, Mark III [8]. It was thought that both of these variables would have a positive affect on Δp_{na}. As can be seen below, the resultant regression proved to be of little

value. The coefficient of $(T_b/C_{na})_{-1}$ was negative as was

$$\Delta p_{na} = .0326 - \underset{(.0636)}{.0946}\,\Delta p_{w-1} + \underset{(.399)}{.197}(U/S)_{-1}$$

$$- \underset{(.672)}{1.05}\,(T_b/C_{na})_{-1}$$

$\overline{R}^2$	S_e
.0037	.0252

that of Δp_{w-1}. The "t" statistic for the coefficient associated with $(U/S)_{-1}$ was very low and the value of $\overline{R}^2$ represented trivial explanatory power. In an attempt to explain the movement of Δp_{na}, the constructed variable $(\Delta p_{na}/p_{na})_{-1}$ was added to the original equation. It was assumed that this variable, the percentage change in p_{na} the previous quarter, would have a positive effect on Δp_{na}. Again, as can be seen below, the resultant equation very little explanatory power ($\overline{R}^2$ = .0842).

$$\Delta p_{na} = -.0001 + \underset{(.586)}{1.466}\Delta p_w - \underset{(.595)}{1.058}\Delta p_{w-1} + \underset{(.164)}{.067}(\Delta p_{na}/p_{na})_{-1}$$

R^2	S_e
.0842	.0242

As mentioned in the previous chapter, the variable p_{na}/p_c had been removed from Eqn. (10). Since p_{na} had entered the system in only Eqn. (10) it was decided, based on the poor estimation results, to delete this price equation from the system.

Equation (32) estimates Δp_k, the implicit deflator for fixed business investment. The initial re-estimation revealed that the variable I_p/X, total fixed business investment divided by the constant dollar GNP, entered the equation with a negative coefficient. From economic theory one would expect this coefficient to be positive. Since one of the primary uses of the re-estimated Klein-Evans model is its use as a macroeconomic instruction tool, it is desirable that all coefficients possess signs that are consistent with economic theory. Thus, the equation for Δp_k was adjusted by deleting I_p/X and systematically considering alternative explanatory variables. The equation that possessed the most explanatory power (highest $\bar{R}^2$) was an equation including the time trend. Again the inclusion of the variable time in this price equation is consistent with the Wharton Mark III model [8]. The resultant adjusted equation is:

$$\Delta p_k = -.012 + \underset{(.406)}{.471\,p} + \underset{(.00015)}{.00023t}$$

$\bar{R}^2$	S_e	d
.5071	.0053	2.03

The implicit price deflator for residential construction, Δp_h, is estimated in Eqn. (33). An initial evaluation of the re-estimation results revealed that the equation possessed poor explanatory power as evidenced by a $\bar{R}^2$ of .1867. Also, the coefficient associated with I_h/X, residential construction expenditures divided by the constant dollar,

GNP, had a very low "t" statistic. Several attempts were made to increase the explanatory power of the equation. Additional variables that were, *a priori*, thought to possess some explanatory power were: Δp_w, W/X, $\Delta(W/X)$, and time. Also a new dummy variable was constructed to reflect wage and price controls. However, only two quarters of the period used in the estimation were under the controls and as such, the dummy variable did not, in a stepwise regression, enter into the equation. After re-estimating Δp_h using the new variables and not obtaining an equation with more explanatory power it was decided to retain the equation in the originally re-estimated form. Although this price equation is far from satisfactory it was retained in the model because it, unlike p_{na}, is necessary to the equation system.

Equation (34) estimates Δp_e, the change in the implicit delator of export prices. The initial re-estimation produced an $\overline{R}^2$ of .0575. The first attempt to respecify the equation involved regressing Δp_e on X_{wt}, the index of world trade, and p_{wt}, the index of world trade prices. The world trade indices were inserted in order to determine whether one might be able to predict United States export prices as a function of both the volume and value of world trade. As can be seen below, the results of that regression proved to be very unimpressive.

$$\Delta p_e = .0075 + \underset{(.00009)}{.00008}X_{wt} - \underset{(.0839)}{.0155}p_{wt}$$

$\overline{R}^2$	S_e
.0262	.0125

The estimated equation had a low $\overline{R}^2$ and very low "t" statistics for both coefficients. In subsequent respecifications several other potential explanatory variables were investigated. Among those considered were Δp, the change in the GNP deflator, Δp_f, the change in the prices received by farmers, and time. The highest attainable $\overline{R}^2$ was 0.12. Since p_e had already been removed from all other equations in the system, Eqn. (34) was deleted from the model.

B. ECONOMETRIC APPROACHES TO PRICE LEVEL DETERMINATION

The Wharton Econometric Forecasting Model developed by Klein and Evans utilizes linear price relationships [3]. The most prevalent variable in their development is p_m, the deflator for gross output originating in the manufacturing sector.

Using the assumption that firms will maximize short run profits and the factor share relationship derived from a Cobb-Douglas production function, Klein and Evans show that p_m is a function of both W/X, the unit labor cost, and Cp, the index of capacity utilization. They also point out that any change in price is proportional to last quarter's price and the current desired price thus instituting a lag structure. For the purposes of statistical smoothing, last year's average prices are used. This can be seen in Eqn. (29). The sector prices are for the most part dependent upon the changes in the manufacturing price level.

As can be seen the majority of the price equations in the original Wharton model do not explain the movement of prices during the period 1960-1971. Several approaches to price estimation not used by Klein and Evans are currently being employed in econometric models. Several of these techniques will now be discussed.[3]

1. Wharton Mark III

The major difference between the original Klein-Evans model and the Wharton Mark III model authored by Michael O. McCarthy [8] is the absence of the average of last year's prices in the manufacturing price equation. The Mark III model employs only last quarter's price. Sector prices still are heavily dependent upon either the GNP deflator or the manufacturing price level. McCarthy also points out that there is apt to be some random changes in sector prices which may produce coefficient signs that one would not expect from economic theory. When this occurred, the coefficient signs were restricted. Also the variable time is prevalent in many of the Mark III sector price equations.

2. Demand Driven Prices

Ray C. Fair [4] specifies price changes purely as a function of aggregate demand. In order to incorporate actual demand shifts, Fair's measure of demand is given as

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[3] Due to data and time limitations, these alternative techniques were not actually applied to the unsatisfactory pricing equations in the basic Klein-Evans model, equations 30, 32, 33 and 34.

the difference between the potential change in GNP and the actual change in GNP.[4] A high value of the variable, $GAP2_t$, corresponds to a period of low demand pressure and a low value of $GAP2_t$ reflects a period of high demand pressure. In order to achieve a smooth fit, the eight-quarter moving average of GAP2 is used. Using this concept of demand, Fair estimated the equation below over the period of 1956-1964; and obtained an $\bar{R}^2$ of .810. For a detailed description of the constant a_2 refer to [4].

$$\Delta pd_t = a_o + a_1 \frac{1}{a_2 + \frac{1}{8} \sum_{i=1}^{8} GAP2_{t-i+1}} + e_t.$$

Another measure of demand is in the amount of unfilled orders. As unfilled orders increase economic theory predicts that prices should rise. Askin and Kraft [1] incorporated the use of this variable along with the normalized wage rate and the ratio of actual output per manhour to the trend of average output per manhour as a means to explain the change in prices.

As can be seen from this brief summary, there are several different variables and techniques that can be used in

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[4] $GAP2_t = GNPR^*_t - GNPR_{t-1} - (GNP_t - GNP_{t-1})$
where, $GNPR^*_t - GNPR_{t-1}$ = potential real change in GNP
and, $GNP_t - GNP_{t-1}$ = actual change in GNP

attempting to explain overall price trends. However, the theories applied in the determination of sector prices all are characterized by the use of either the GNP deflator or the wholesale price index as the major explanatory variables.

V. CONCLUSIONS

One result of this study is the formulation of an econometric model suitable for classroom use. A second and perhaps equally important result of this work is to emphasize the difficulties involved in obtaining predictive equations for price movements.

It is the author's opinion that work in the area of price equations would be beneficial to the Navy. One topic under continuous consideration is escalation in Naval procurement contracts. Currently inflation used in the escalation process is initially estimated by the contractor and presented to the project manager for review and approval. The contract price is then adjusted for inflation. The necessity for an independent estimation of sector prices by the Navy is apparent. Sector pricing equations which might be most relevant include shipbuilding, aircraft production, energy, military manpower, electronics, etc.

The feasibility of developing independent equations for sectors directly relevant to the Navy could be investigated in this thesis. However, if it is subsequently determined that independent estimation is not feasible for reasons such as insufficient data, one might want to apply a technique developed by Fisher, Klein, and Shinkai at Brookings [2]. Their technique consists of relating sector deflators to the GNP deflator. In other words, one first examines the relationship

between all sector deflators and the GNP deflator. From this evaluation, weights are determined that convert sector prices to the GNP deflator. For example one might find that shipbuilding prices contribute .05 to the GNP deflator. It would then be possible to estimate the actual price in the shipbuilding sector on the expected price in the shipbuilding sector determined from the weighted GNP deflator and the difference between the actual and expected values of the sector price the previous quarter as shown below.

$$P_S = a_o + a_1 \hat{P}_S + (P_S - \hat{P}_S)_{-1}.$$

It is readily apparent that more work in the area of price determination is still required. This thesis involved the re-estimation and respecification of a previously developed model. Still to be performed is the simulation using the redeveloped model in order to examine its predictive powers.

APPENDIX A: ESTIMATION PROCEDURE

The estimation procedure employed is that of two-stage least squares using principal components. First developed by Kloeck and Menues [7], it avoids the difficulties of high degrees of multicollinearity and a possible shortage of degrees of freedom often evident in large simultaneous equation systems.

The model is of the form

$$Y_t = B[X_{1t}\ X_{2t}] + e_t$$

where X_1 is the matrix consisting of RHS endogenous variables and X_2 is the matrix of exogenous variables. Normal 2SLS consists of regressing each element of X_1 on every variable of X_2. Thus obtaining, $\hat{X}_1$. $\hat{B}$ is then found by performing ordinary least squares on the model

$$Y_t = B[\hat{X}_{1t}\ X_{2t}] + e_t.$$

The purpose of 2SLS is to eliminate the correlation found between X_{1t} and e_t using OLS.[5]

However for large simultaneous equation systems other problems could exist. Given that there are n-observations during the period under examination and that the number of exogenous variables, K, is large, it could be the case that

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[5] For a further description of 2SLS refer to [5].

K is greater than n thus making the system unidentifiable or that there may be a shortage of degrees of freedom even if K is less than n. Also, as in the case of large econometric models there is the possibility of a high degree of multicollinearity.

Kloek and Mennes suggested the use of 2SLS-PC as a means of reducing the number of exogenous variables during the first stage of 2SLS by replacing X_2 with g-principal components. The determination of the principle components is as follows:

1) Compute the correlation matrix, R, of all the elements in X_2.

2) The characteristic roots of $|R-\lambda I| = 0$ are then determined. The sum of the characteristic roots, r_j, will be equal to K, the number of variables in X_2. The number of principle components to be used is dependent upon the percent of the variance that is desired to be explained by the use of the components and also computational costs. In this case eight principle components were used explaining 94.8 percent of the variance. In other words, the sum of the largest eight roots was equal to 94.8 percent of $\sum_{j=1}^{K} r_j$.

3) The principal components, p_{jt}, are then found using the characteristic vectors associated with the largest g characteristic roots, where

$$p_{jt} = \sum_{K=1}^{K} r_{jK} X_{Kt} \quad ; \; j = 1,\ldots,g.$$

The first stage estimate of X_{1t} using 2SLS-PC is then found by regressing all elements of X_1 on all p_j's yielding $\tilde{X}_1$. The second stage of estimation is the same as 2SLS replacing $\hat{X}_1$ with $\tilde{X}_1$.

The list of variable definitions notes which are endogenous or exogenous. It must also be noted that all lagged endogenous variables were treated as exogenous to the system since they must be considered as to have been determined prior to each time period t.

APPENDIX B: LIST OF VARIABLES

All variable notations are those used in the original Klein-Evans model [6]. Following each variable definition is the data source. The explanation of sources follows:

BCD: Business Conditions Digest

DC: Unpublished data from the Department of Commerce

EI: Economic Indicators, Council of Economic Advisors

FRB: Federal Reserve Bulletin

I: Identity (explained in Appendix D)

MBS: Monthly Bulletin of Statistics, United Nations

SCB: Survey of Current Business, Department of Commerce

Variables

$*C_a$ = consumer purchases of automobiles and parts, billions of 1958 dollars: SCB

$*C_d$ = consumer purchases of durables, billions of 1958 dollars: SCB

$*C_{na}$ = consumer purchases of durables except automobiles and parts, billions of 1958 dollars: SCB

$*C_{ns}$ = consumer purchases of nondurables and services, billions of 1958 dollars: SCB

*Cp = index of capacity utilization, full capacity = 100.0: BCD

Cr = dummy variable for credit conditions; -1 when Regulation W was in force, 0 otherwise until 1955, +1 in 1955 and later

d_1 = dummy variables reflecting new guidelines for depreciation; 0 before 1962, 1 from 1962 through 1969, 2 in 1970 and later

$*D_f$ = farm depreciation, billions of current dollars: DC

*D_h = residential construction depreciation, billions of current dollars: DC

d_{KW} = dummy variable for Korean War; +1 in 1950.3 to 1951.1, 0 otherwise

*D_m = manufacturing depreciation, billions of current dollars: DC

*D_n = nonmanufacturing, nonfarm, and nonresidential construction depreciation, billions of current dollars: DC

d_s = dummy variable for supply shortages for automobiles; +3 in 1948.1 and 1948.2, +2 in 1948.3 and 1948.4, +1 in 1949.1 and 1952.3, 0 otherwise

d_T = dummy variable reflecting the change in federal indirect tax rates in 1965.3

d_{UW} = dummy variable for unfilled orders during the Korean War; +1 in 1950.3 and 1951.2, -1 in 1953.3 and 1953.4, 0 otherwise

*Dv = corporate dividend payments, billions of current dollars: SCB

*F_e = exports of goods and services, billions of 1958 dollars: SCB

FF = unincorporated business income of farmers, billions of current dollars: SCB

*F_i = imports of goods and services, billions of 1958 dollars: SCB

G = government purchases of goods and services, billions of 1958 dollars: SCB

G_d = national defense expenditures, billions of 1958 dollars: SCB

*GNP = gross national product, billions of current dollars: SCB

i_d = discount rate at the Federal Reserve Bank of New York, percent: FRB

I_g = interest payments by government, billions of current dollars: SCB

*I_h = residential construction expenditures, billions of 1958 dollars: SCB

*ΔI_i = total inventory investment, billions of 1958 dollars: SCB

*ΔI_{if} = farm inventory investment, billions of 1958 dollars: SCB

*ΔI_{im} = manufacturing inventory investment, billions of 1958 dollars: SCB

*ΔI_{in} = nonmanufacturing, nonfarm inventory investment, billions of constant dollars: I

*i_L = average yield on corporate bonds (Moody's), percent: FRB

*I_p = total fixed business investment, billions of 1958 dollars: SCB

*I_{pf} = farm fixed business investment, billions of 1958 dollars: EI

*I_{pm} = manufacturing fixed business investment, billions of 1958 dollars: SCB

*I_{pn} = nonmanufacturing, nonfarm fixed business investment, billions of 1958 dollars: I

*i_s = interest rate of prime commercial paper, 4 to 6 months, percent: FRB

*IVA = inventory valuation adjustment, billions of current dollars: SCB

*K = capital stock, billions of 1958 dollars: I

*K_a = capital stock of automobiles, billions of 1958 dollars: I

*K_f = capital stock of farm investment, billions of 1958 dollars: DC

*K_h = capital stock of residential construction, billions of 1958 dollars: I

*K_{im} = stock of manufacturing inventories, billions of 1958 dollars: SCB

*K_{in} = stock of nonmanufacturing, nonfarm inventories, billions of 1958 dollars: SCB

*K_m = capital stock of manufacturing investment, billions of 1958 dollars: I

*K_n = capital stock of nonmanufacturing, nonfarm, nonresidential construction, billions of 1958 dollars: I

*L_m = corporate cash flow of manufacturing sector, billions of 1958 dollars: SCB

*N_e = number of employees in private sector, millions: I

N_f = number of agricultural employees, millions, SCB

N_g = number of government employees, millions: SCB

*NI = national income, billions of current dollars: SCB

*NI_m = national income originating in the manufacturing sector, billions of current dollars: SCB

N_L = labor force, millions: SCB

N_s = number of self-employed workers, millions: DC

*p = implicit deflator for GNP, 1958 = 1.00: SCB

p_a = implicit deflator for automobiles and parts, 1958 = 1.00: DC

*p_c = implicit deflator for consumer purchases, 1958 = 1.00: SCB

*P_{ca} = corporate profits after taxes, billions of current dollars: SCB

*P_{cb} = corporate profits before taxes and after inventory valuation adjustment, billions of current dollars: SCB

*p_e = implicit deflator for exports, 1958 = 1.00: SCB

p_f = prices received by farmers, 1958 = 1.00: SCB

p_g = implicit deflator of government purchases, 1958 = 1.00: SCB

*p_h = implicit deflator of residential construction, 1958 = 1.00: SCB

p_i = implicit deflator of imports, 1958 = 1.00: SCB

*PI = personal income, billions of current dollars: SCB

*p_k = implicit deflator of fixed business investment, 1958 = 1.00: SCB

*p_{na} = implicit deflator of purchases of durables except automobiles and parts, 1958 = 1.00: SCB

*p_{ns} = implicit deflator of consumer purchases of nondurables and services, 1958 = 1.00: SCB

p_r = price of rent index, 1958 = 1.00: SCB

*PRI = income of unincorporated business enterprises except farms, rental payments, and net interest payments, billions of current dollars: SCB

*p_w = wholesale price index, 1958 = 1.00: SCB

p_{wt} = index of world trade prices, 1958 = 1.00: MBS

*RE = corporate retained earnings, billions of current dollars: SCB

*RE_m = manufacturing corporate retained earnings, billions of current dollars: SCB

RR = ratio of excess to required reserves, percent: FRB

*S = total sales in the private sector, billions of 1958 dollars: SCB

SD = statistical discrepancy minus subsidies plus net surplus of government enterprises, billions of current dollars: SCB

SocSec = total contributions for social insurance, billions of current dollars: SCB

STR = dummy variable for steel strikes; 1 in 1959, 1962, 1963, 1965, 1968

t = time trend, 1948.1 = 1

*T_b = indirect business taxes and transfers, billions of current dollars: SCB

*T_c = corporate income taxes, billions of current dollars: SCB

*T_p = personal income taxes, billions of current dollars: SCB

*Tr = transfer payments to individuals, billions of current dollars: SCB

*U = unfilled orders, billions of 1958 dollars: SCB

*Un = rate of unemployment, percent: SCB

*W = total wage bill, billions of current dollars: SCB

W_g = government wage bill, billions of current dollars: SCB

*X = gross national product, billions of 1958 dollars: SCB

*X_p = gross private product originating except farm, billions of 1958 dollars: SCB

X_{wt} = index of world trade, 1958 = 100.0: MBS

*Y = personal disposable income, billions of 1958 dollars: SCB

*Z = final sales in the private sector, billions of 1958 dollars: SCB

*denotes jointly dependent (endogenous) variables

APPENDIX C: VARIABLE VALUES

The values for all variables are listed from 1960.1 to 1973.4.

C_a - Consumer Purchases of Autos & Parts, Billions of \$ 1958

1960.1	20.3	1967.1	28.9
1960.2	20.4	1967.2	31.9
1960.3	20.1	1967.3	31.2
1960.4	18.9	1967.4	30.6
1961.1	17.3	1968.1	34.2
1961.2	17.8	1968.2	35.4
1961.3	18.8	1968.3	37.9
1961.4	19.7	1968.4	37.7
1962.1	21.0	1969.1	38.6
1962.2	21.4	1969.2	38.0
1962.3	22.1	1969.3	38.1
1962.4	22.8	1969.4	38.4
1963.1	23.6	1970.1	35.5
1963.2	23.9	1970.2	36.6
1963.3	24.3	1970.3	36.0
1963.4	24.8	1970.4	29.6
1964.1	25.1	1971.1	42.0
1964.2	25.8	1971.2	42.4
1964.3	26.7	1971.3	44.4
1964.4	24.6	1971.4	42.5
1965.1	30.2	1972.1	43.3
1965.2	29.6	1972.2	44.8
1965.3	30.7	1972.3	48.9
1965.4	30.9	1972.4	50.5
1966.1	32.6	1973.1	53.9
1966.2	29.5	1973.2	53.0
1966.3	30.9	1973.3	52.5
1966.4	31.0	1973.4	45.5

C_d - Consumer Purchases of Durables, Billions of $ 1958

1960.1	45.4	1967.1	70.3
1960.2	45.6	1967.2	74.0
1960.3	45.0	1967.3	73.3
1960.4	43.5	1967.4	74.0
1961.1	41.7	1968.1	78.1
1961.2	43.2	1968.2	80.0
1961.3	44.5	1968.3	83.4
1961.4	46.3	1968.4	83.3
1962.1	48.1	1969.1	85.9
1962.2	48.1	1969.2	86.0
1962.3	49.7	1969.3	85.0
1962.4	50.8	1969.4	85.4
1963.1	52.2	1970.1	84.5
1963.2	53.0	1970.2	85.8
1963.3	54.4	1970.3	85.6
1963.4	55.3	1970.4	79.3
1964.1	57.2	1971.1	89.3
1964.2	59.3	1971.2	90.2
1964.3	60.4	1971.3	93.6
1964.4	58.7	1971.4	95.8
1965.1	65.0	1972.1	99.2
1965.2	64.3	1972.2	101.9
1965.3	67.1	1972.3	105.8
1965.4	69.8	1972.4	109.2
1966.1	72.9	1973.1	117.0
1966.2	69.6	1973.2	116.2
1966.3	72.3	1973.3	115.4
1966.4	72.3	1973.4	108.7

C_{na} - Consumer Purchases of Durables Except Autos & Parts
Billions of \$ 1958

1960.1	25.1	1967.1	41.4
1960.2	25.2	1967.2	42.1
1960.3	24.9	1967.3	42.1
1960.4	24.6	1967.4	43.4
1961.1	24.4	1968.1	43.9
1961.2	25.4	1968.2	44.6
1961.3	25.7	1968.3	45.5
1961.4	26.6	1968.4	45.6
1962.1	27.1	1969.1	47.3
1962.2	26.7	1969.2	48.0
1962.3	27.6	1969.3	46.9
1962.4	28.0	1969.4	47.0
1963.1	28.6	1970.1	49.0
1963.2	29.1	1970.2	49.2
1963.3	30.1	1970.3	49.6
1963.4	30.5	1970.4	49.7
1964.1	32.1	1971.1	47.3
1964.2	33.5	1971.2	47.8
1964.3	33.7	1971.3	49.2
1964.4	33.1	1971.4	53.3
1965.1	34.8	1972.1	55.9
1965.2	34.7	1972.2	57.1
1965.3	36.4	1972.3	56.9
1965.4	38.9	1972.4	58.7
1966.1	40.3	1973.1	63.1
1966.2	40.1	1973.2	63.2
1966.3	41.4	1973.3	62.9
1966.4	41.3	1973.4	63.2

C_{ns} - Consumer Purchases of Nondurables & Services Billions of $ 1958

1960.1	268.4	1967.1	354.1
1960.2	272.0	1967.2	356.3
1960.3	271.4	1967.3	358.3
1960.4	272.8	1967.4	360.2
1961.1	274.5	1968.1	366.8
1961.2	277.1	1968.2	368.4
1961.3	279.3	1968.3	374.4
1961.4	283.1	1968.4	376.9
1962.1	285.2	1969.1	379.6
1962.2	287.7	1969.2	383.3
1962.3	290.5	1969.3	384.5
1962.4	293.8	1969.4	386.7
1963.1	296.3	1970.1	389.8
1963.2	297.9	1970.2	391.6
1963.3	301.7	1970.3	395.3
1963.4	302.4	1970.4	398.2
1964.1	308.4	1971.1	400.1
1964.2	311.4	1971.2	403.5
1964.3	318.1	1971.3	404.4
1964.4	320.6	1971.4	408.3
1965.1	324.1	1972.1	413.2
1965.2	328.1	1972.2	421.5
1965.3	333.2	1972.3	425.1
1965.4	339.4	1972.4	431.2
1966.1	342.8	1973.1	435.8
1966.2	345.4	1973.2	437.1
1966.3	348.9	1973.3	442.7
1966.4	348.5	1973.4	442.6

Cp - (%)

1960.1	84.1	1967.1	88.9
1960.2	81.2	1967.2	87.7
1960.3	79.0	1967.3	87.3
1960.4	76.2	1967.4	87.7
1961.1	74.2	1968.1	87.9
1961.2	76.7	1968.2	88.1
1961.3	78.7	1968.3	87.6
1961.4	80.8	1968.4	87.2
1962.1	81.3	1969.1	87.7
1962.2	81.4	1969.2	87.1
1962.3	81.4	1969.3	86.9
1962.4	81.4	1969.4	84.3
1963.1	81.9	1970.1	80.8
1963.2	83.3	1970.2	79.8
1963.3	83.1	1970.3	78.3
1963.4	83.8	1970.4	74.2
1964.1	84.2	1971.1	75.0
1964.2	85.4	1971.2	75.6
1964.3	86.0	1971.3	74.7
1964.4	86.3	1971.4	74.6
1965.1	88.3	1972.1	75.6
1965.2	88.5	1972.2	77.9
1965.3	89.3	1972.3	79.4
1965.4	89.7	1972.4	81.5
1966.1	91.4	1973.1	82.8
1966.2	92.3	1973.2	83.3
1966.3	92.3	1973.3	83.3
1966.4	91.6	1973.4	82.7

d_1 - Depreciation Dummy

1960.1	0	1967.1	1
1960.2	0	1967.2	1
1960.3	0	1967.3	1
1960.4	0	1967.4	1
1961.1	0	1968.1	1
1961.2	0	1968.2	1
1961.3	0	1968.3	1
1961.4	0	1968.4	1
1962.1	1	1969.1	1
1962.2	1	1969.2	1
1962.3	1	1969.3	1
1962.4	1	1969.4	1
1963.1	1	1970.1	2
1963.2	1	1970.2	2
1963.3	1	1970.3	2
1963.4	1	1970.4	2
1964.1	1	1971.1	2
1964.2	1	1971.2	2
1964.3	1	1971.3	2
1964.4	1	1971.4	2
1965.1	1	1972.1	2
1965.2	1	1972.2	2
1965.3	1	1972.3	2
1965.4	1	1972.4	2
1966.1	1	1973.1	2
1966.2	1	1973.2	2
1966.3	1	1973.3	2
1966.4	1	1973.4	2

D_f - Farm Depreciation (Current $)

1960.1	4.276	1967.1	5.252
1960.2	4.172	1967.2	5.392
1960.3	4.052	1967.3	5.540
1960.4	3.944	1967.4	5.692
1961.1	3.956	1968.1	5.806
1961.2	4.020	1968.2	5.909
1961.3	4.096	1968.3	6.004
1961.4	4.176	1968.4	6.097
1962.1	4.183	1969.1	6.615
1962.2	4.180	1969.2	6.222
1962.3	4.168	1969.3	6.267
1962.4	4.169	1969.4	6.302
1963.1	4.199	1970.1	6.035
1963.2	4.247	1970.2	5.973
1963.3	4.307	1970.3	6.011
1963.4	4.375	1970.4	6.113
1964.1	4.417	1971.1	6.231
1964.2	4.457	1971.2	6.370
1964.3	4.493	1971.3	6.536
1964.4	4.541	1971.4	6.691
1965.1	4.628	1972.1	6.773
1965.2	4.728	1972.2	7.220
1965.3	4.832	1972.3	6.986
1965.4	4.928	1972.4	7.117
1966.1	4.980	1973.1	7.185
1966.2	5.024	1973.2	7.365
1966.3	5.072	1973.3	7.366
1966.4	5.132	1973.4	7.467

D_h - Residential Construction Depreciation (Current $)

1960.1	6.480	1967.1	9.442
1960.2	6.544	1967.2	9.566
1960.3	6.608	1967.3	9.682
1960.4	6.684	1967.4	9.802
1961.1	6.796	1968.1	9.961
1961.2	6.928	1968.2	10.085
1961.3	7.064	1968.3	10.270
1961.4	7.184	1968.4	10.456
1962.1	7.276	1969.1	10.572
1962.2	7.368	1969.2	10.670
1962.3	7.456	1969.3	10.760
1962.4	7.564	1969.4	10.854
1963.1	7.676	1970.1	11.221
1963.2	7.808	1970.2	11.467
1963.3	7.944	1970.3	11.729
1963.4	8.084	1970.4	11.951
1964.1	8.215	1971.1	12.197
1964.2	8.347	1971.2	12.134
1964.3	8.475	1971.3	12.308
1964.4	8.603	1971.4	12.533
1965.1	8.688	1972.1	12.691
1965.2	8.768	1972.2	14.276
1965.3	8.836	1972.3	13.110
1965.4	8.904	1972.4	13.359
1966.1	8.989	1973.1	13.560
1966.2	9.093	1973.2	13.994
1966.3	9.201	1973.3	13.931
1966.4	9.321	1973.4	14.124

D_m - Manufacturing Depreciation (Current $)

1960.1	11.354	1967.1	18.906
1960.2	11.281	1967.2	19.280
1960.3	11.381	1967.3	19.799
1960.4	11.359	1967.4	20.307
1961.1	11.712	1968.1	20.736
1961.2	11.991	1968.2	21.341
1961.3	12.021	1968.3	21.564
1961.4	12.132	1968.4	21.839
1962.1	13.821	1969.1	22.568
1962.2	13.834	1969.2	23.152
1962.3	13.924	1969.3	23.600
1962.4	14.085	1969.4	23.868
1963.1	14.176	1970.1	24.376
1963.2	14.632	1970.2	24.712
1963.3	14.624	1970.3	25.016
1963.4	14.956	1970.4	25.592
1964.1	15.345	1971.1	26.051
1964.2	15.518	1971.2	26.538
1964.3	15.671	1971.3	26.899
1964.4	15.778	1971.4	27.064
1965.1	16.072	1972.1	27.727
1965.2	16.464	1972.2	28.987
1965.3	16.912	1972.3	28.755
1965.4	17.212	1972.4	29.871
1966.1	17.652	1973.1	30.477
1966.2	17.906	1973.2	31.006
1966.3	18.021	1973.3	31.601
1966.4	18.153	1973.4	33.632

D_n - Non-manufacturing, Nonfarm, and Nonresidential Construction Depreciation (Current $)

1960.1	51.389	1967.1	91.399
1960.2	53.502	1967.2	93.562
1960.3	53.159	1967.3	97.819
1960.4	52.712	1967.4	88.599
1961.1	54.736	1968.1	94.697
1961.2	54.860	1968.2	101.964
1961.3	56.119	1968.3	101.361
1961.4	58.308	1968.4	103.008
1962.1	63.319	1969.1	108.545
1962.2	63.817	1969.2	96.456
1962.3	66.252	1969.3	112.873
1962.4	66.881	1969.4	116.476
1963.1	48.348	1970.1	116.367
1963.2	69.113	1970.2	116.747
1963.3	70.725	1970.3	118.544
1963.4	72.084	1970.4	127.344
1964.1	70.442	1971.1	131.821
1964.2	71.478	1971.2	134.558
1964.3	74.460	1971.3	138.356
1964.4	75.778	1971.4	142.411
1965.1	77.711	1972.1	136.908
1965.2	78.540	1972.2	144.116
1965.3	82.219	1972.3	150.249
1965.4	87.156	1972.4	149.452
1966.1	91.178	1973.1	152.778
1966.2	96.977	1973.2	157.135
1966.3	100.006	1973.3	159.501
1966.4	99.594	1973.4	165.677

Dv - Corporate Dividend Payments - Billions Current $

1960.1	14.4	1967.1	21.1
1960.2	14.4	1967.2	21.6
1960.3	14.6	1967.3	21.9
1960.4	14.8	1967.4	21.0
1961.1	14.9	1968.1	22.5
1961.2	15.0	1968.2	23.4
1961.3	15.1	1968.3	23.8
1961.4	15.7	1968.4	24.1
1962.1	14.4	1969.1	24.0
1962.2	15.0	1969.2	24.2
1962.3	15.3	1969.3	24.1
1962.4	15.6	1969.4	24.3
1963.1	16.0	1970.1	24.8
1963.2	16.4	1970.2	24.7
1963.3	16.6	1970.3	24.7
1963.4	16.8	1970.4	24.5
1964.1	17.3	1971.1	25.3
1964.2	17.7	1971.2	25.1
1964.3	17.9	1971.3	25.2
1964.4	18.3	1971.4	24.9
1965.1	18.7	1972.1	25.7
1965.2	19.4	1972.2	25.9
1965.3	20.2	1972.3	26.2
1965.4	21.0	1972.4	26.4
1966.1	21.2	1973.1	26.9
1966.2	21.0	1973.2	27.3
1966.3	20.7	1973.3	28.1
1966.4	20.2	1973.4	29.0

F_e - Exports of Goods and Services Billions of 1958 $

1960.1	6.5	1967.1	12.6
1960.2	6.8	1967.2	12.6
1960.3	6.8	1967.3	12.7
1960.4	6.9	1967.4	12.8
1961.1	7.1	1968.1	12.9
1961.2	6.9	1968.2	14.1
1961.3	7.2	1968.3	14.6
1961.4	7.5	1968.4	14.2
1962.1	7.3	1969.1	13.4
1962.2	7.6	1969.2	16.0
1962.3	7.6	1969.3	16.8
1962.4	7.6	1969.4	17.4
1963.1	7.6	1970.1	18.2
1963.2	8.2	1970.2	18.9
1963.3	8.7	1970.3	19.4
1963.4	8.6	1970.4	19.2
1964.1	9.1	1971.1	20.7
1964.2	9.1	1971.2	21.1
1964.3	9.6	1971.3	22.5
1964.4	9.9	1971.4	19.2
1965.1	9.2	1972.1	22.4
1965.2	10.7	1972.2	22.6
1965.3	10.6	1972.3	24.2
1965.4	10.6	1972.4	24.3
1966.1	11.6	1973.1	31.1
1966.2	12.1	1973.2	35.2
1966.3	11.9	1973.3	40.2
1966.4	12.2	1973.4	47.7

FF - Unincorporated Income of Farmers Billions of Current $

1960.1	10.7	1967.1	14.4
1960.2	12.4	1967.2	14.8
1960.3	12.2	1967.3	14.9
1960.4	12.7	1967.4	15.2
1961.1	12.8	1968.1	14.4
1961.2	12.8	1968.2	14.1
1961.3	12.8	1968.3	14.7
1961.4	13.3	1968.4	15.5
1962.1	13.5	1969.1	16.5
1962.2	13.3	1969.2	16.5
1962.3	12.7	1969.3	16.6
1962.4	12.6	1969.4	17.4
1963.1	13.4	1970.1	18.1
1963.2	13.1	1970.2	17.4
1963.3	13.0	1970.3	16.0
1963.4	12.9	1970.4	16.2
1964.1	12.0	1971.1	16.9
1964.2	12.0	1971.2	16.6
1964.3	12.0	1971.3	16.3
1964.4	12.6	1971.4	17.5
1965.1	13.8	1972.1	19.5
1965.2	15.1	1972.2	19.9
1965.3	15.2	1972.3	19.8
1965.4	15.2	1972.4	21.8
1966.1	17.4	1973.1	24.3
1966.2	16.2	1973.2	24.4
1966.3	15.7	1973.3	27.1
1966.4	15.0	1973.4	31.3

F_i - Imports of Goods and Services, Billions of $

1960.1	6.0	1967.1	10.6
1960.2	6.1	1967.2	10.4
1960.3	5.9	1967.3	10.6
1960.4	5.5	1967.4	11.2
1961.1	5.5	1968.1	12.3
1961.2	5.5	1968.2	12.8
1961.3	5.8	1968.3	13.4
1961.4	6.2	1968.4	13.4
1962.1	6.0	1969.1	12.8
1962.2	6.2	1969.2	15.2
1962.3	6.2	1969.3	15.5
1962.4	6.3	1969.4	16.1
1963.1	6.2	1970.1	16.8
1963.2	6.4	1970.2	17.4
1963.3	6.7	1970.3	18.0
1963.4	6.8	1970.4	18.2
1964.1	7.0	1971.1	19.0
1964.2	7.1	1971.2	20.6
1964.3	7.3	1971.3	21.3
1964.4	7.5	1971.4	20.5
1965.1	7.4	1972.1	24.2
1965.2	8.4	1972.2	25.1
1965.3	8.6	1972.3	26.2
1965.4	9.0	1972.4	28.7
1966.1	10.2	1973.1	31.6
1966.2	10.5	1973.2	36.2
1966.3	10.4	1973.3	38.1
1966.4	10.5	1973.4	42.5

G - Government Purchases of Goods & Services, Billions of $

1960.1	93.9	1967.1	137.6
1960.2	94.7	1967.2	140.2
1960.3	95.4	1967.3	140.7
1960.4	95.9	1967.4	142.2
1961.1	97.6	1968.1	146.4
1961.2	99.5	1968.2	148.2
1961.3	102.0	1968.3	148.0
1961.4	102.9	1968.4	149.0
1962.1	105.5	1969.1	147.2
1962.2	107.8	1969.2	146.3
1962.3	107.8	1969.3	145.1
1962.4	108.5	1969.4	144.6
1963.1	110.2	1970.1	142.3
1963.2	108.7	1970.2	139.1
1963.3	110.0	1970.3	138.0
1963.4	109.5	1970.4	137.8
1964.1	110.3	1971.1	136.7
1964.2	112.6	1971.2	136.7
1964.3	111.2	1971.3	138.6
1964.4	110.5	1971.4	141.6
1965.1	111.3	1972.1	142.7
1965.2	113.1	1972.2	144.0
1965.3	115.9	1972.3	141.8
1965.4	118.4	1972.4	143.5
1966.1	121.5	1973.1	144.4
1966.2	124.3	1973.2	145.2
1966.3	128.7	1973.3	145.0
1966.4	131.6	1973.4	144.1

G_d - National Defense Expenditures Billions of $

1960.1	43.6	1967.1	55.8
1960.2	42.5	1967.2	57.1
1960.3	42.4	1967.3	57.5
1960.4	43.1	1967.4	57.8
1961.1	43.9	1968.1	57.6
1961.2	44.5	1968.2	58.6
1961.3	44.9	1968.3	58.1
1961.4	45.2	1968.4	57.5
1962.1	47.1	1969.1	55.8
1962.2	48.8	1969.2	54.3
1962.3	47.1	1969.3	54.5
1962.4	46.3	1969.4	53.3
1963.1	46.3	1970.1	51.4
1963.2	45.4	1970.2	47.3
1963.3	45.7	1970.3	45.8
1963.4	44.4	1970.4	44.8
1964.1	43.8	1971.1	43.3
1964.2	44.2	1971.2	42.1
1964.3	42.8	1971.3	41.4
1964.4	41.7	1971.4	42.4
1965.1	41.0	1972.1	43.6
1965.2	41.4	1972.2	43.4
1965.3	41.8	1972.3	40.0
1965.4	43.4	1972.4	39.9
1966.1	45.4	1973.1	39.9
1966.2	47.7	1973.2	39.1
1966.3	51.0	1973.3	38.5
1966.4	52.3	1973.4	36.8

GNP - Gross National Product Billions Current $

1960.1	500.4	1967.1	774.4
1960.2	504.1	1967.2	784.5
1960.3	503.5	1967.3	800.9
1960.4	502.1	1967.4	815.9
1961.1	501.4	1968.1	834.0
1961.2	513.9	1968.2	857.8
1961.3	522.4	1968.3	875.2
1961.4	536.9	1968.4	890.2
1962.1	547.8	1969.1	907.0
1962.2	557.2	1969.2	923.5
1962.3	564.4	1969.3	941.7
1962.4	572.0	1969.4	948.9
1963.1	557.4	1970.1	958.5
1963.2	584.2	1970.2	970.6
1963.3	594.7	1970.3	987.4
1963.4	605.8	1970.4	991.8
1964.1	617.7	1971.1	1027.2
1964.2	628.0	1971.2	1046.9
1964.3	638.9	1971.3	1063.5
1964.4	645.1	1971.4	1084.2
1965.1	662.8	1972.1	1112.5
1965.2	675.7	1972.2	1142.4
1965.3	691.1	1972.3	1166.5
1965.4	710.0	1972.4	1199.2
1966.1	729.5	1973.1	1242.5
1966.2	743.3	1973.2	1272
1966.3	755.9	1973.3	1304.5
1966.4	770.7	1973.4	1337.5

i_d - Discount Rate at the Federal Bank of New York

1960.1	4.00	1967.1	4.50
1960.2	3.50	1967.2	4.00
1960.3	3.00	1967.3	4.00
1960.4	3.00	1967.4	4.50
1961.1	3.00	1968.1	5.00
1961.2	3.00	1968.2	5.00
1961.3	3.00	1968.3	5.25
1961.4	3.00	1968.4	5.50
1962.1	3.00	1969.1	5.50
1962.2	3.00	1969.2	6.00
1962.3	3.00	1969.3	6.00
1962.4	3.00	1969.4	6.00
1963.1	3.00	1970.1	6.00
1963.2	3.00	1970.2	6.00
1963.3	3.50	1970.3	6.00
1963.4	3.50	1970.4	5.50
1964.1	3.50	1971.1	4.75
1964.2	3.50	1971.2	4.75
1964.3	3.50	1971.3	5.00
1964.4	4.00	1971.4	4.50
1965.1	4.00	1972.1	4.50
1965.2	4.00	1972.2	4.50
1965.3	4.00	1972.3	4.50
1965.4	4.50	1972.4	4.50
1966.1	4.50	1973.1	5.50
1966.2	4.50	1973.2	6.50
1966.3	4.50	1973.3	7.50
1966.4	4.50	1973.4	7.50

I_g - Interest Payments by Federal Government (Current $)

1960.1	2.411	1967.1	2.639
1960.2	2.361	1967.2	3.102
1960.3	2.319	1967.3	2.175
1960.4	2.268	1967.4	2.692
1961.1	2.245	1968.1	3.121
1961.2	2.223	1968.2	3.751
1961.3	2.253	1968.3	3.225
1961.4	2.249	1968.4	3.647
1962.1	2.305	1969.1	4.040
1962.2	2.391	1969.2	4.147
1962.3	2.453	1969.3	4.317
1962.4	2.483	1969.4	4.258
1963.1	1.908	1970.1	1.612
1963.2	1.938	1970.2	1.616
1963.3	1.986	1970.3	1.677
1963.4	1.860	1970.4	1.520
1964.1	2.026	1971.1	1.678
1964.2	2.144	1971.2	1.658
1964.3	2.055	1971.3	1.706
1964.4	2.203	1971.4	1.643
1965.1	2.093	1972.1	1.750
1965.2	2.283	1972.2	1.761
1965.3	2.335	1972.3	1.772
1965.4	2.008	1972.4	1.762
1966.1	2.365	1973.1	1.958
1966.2	2.516	1973.2	2.096
1966.3	2.150	1973.3	2.245
1966.4	2.477	1973.4	2.274

I_h - Residential Construction Expenditures (1958 Billions $)

1960.1	23.636	1967.1	18.030
1960.2	22.063	1967.2	19.177
1960.3	21.053	1967.3	21.314
1960.4	20.749	1967.4	22.930
1961.1	20.845	1968.1	22.821
1961.2	21.068	1968.2	26.699
1961.3	21.665	1968.3	22.586
1961.4	22.559	1968.4	23.716
1962.1	23.106	1969.1	24.519
1962.2	23.875	1969.2	24.560
1962.3	24.186	1969.3	23.741
1962.4	23.858	1969.4	21.930
1963.1	24.279	1970.1	22.230
1963.2	24.732	1970.2	20.819
1963.3	24.749	1970.3	21.870
1963.4	25.408	1970.4	24.057
1964.1	25.000	1971.1	25.962
1964.2	24.261	1971.2	28.289
1964.3	23.852	1971.3	29.947
1964.4	23.509	1971.4	31.688
1965.1	24.184	1972.1	33.990
1965.2	23.747	1972.2	34.197
1965.3	23.735	1972.3	34.713
1965.4	23.785	1972.4	35.298
1966.1	23.614	1973.1	35.628
1966.2	22.222	1973.2	35.350
1966.3	20.914	1973.3	34.499
1966.4	18.571	1973.4	30.491

ΔI_i - Total Investment Inventory

1960.1	9.7	1967.1	7.9
1960.2	3.6	1967.2	2.1
1960.3	2.6	1967.3	4.5
1960.4	-3.0	1967.4	6.7
1961.1	-3.6	1968.1	1.6
1961.2	1.8	1968.2	9.6
1961.3	3.5	1968.3	6.6
1961.4	5.3	1968.4	8.8
1962.1	6.0	1969.1	5.9
1962.2	5.3	1969.2	6.8
1962.3	4.4	1969.3	9.4
1962.4	5.1	1969.4	4.5
1963.1	3.9	1970.1	1.6
1963.2	4.2	1970.2	4.3
1963.3	5.3	1970.3	4.8
1963.4	6.9	1970.4	4.4
1964.1	3.5	1971.1	4.8
1964.2	4.7	1971.2	5.3
1964.3	4.5	1971.3	2.2
1964.4	7.9	1971.4	3.1
1965.1	9.3	1972.1	1.0
1965.2	6.5	1972.2	4.0
1965.3	7.1	1972.3	6.6
1965.4	8.9	1972.4	6.2
1966.1	9.2	1973.1	3.2
1966.2	13.7	1973.2	3.3
1966.3	11.1	1973.3	2.3
1966.4	17.7	1973.4	12.1

ΔI_{if} - Farm Inventory Investment

1960.1	-.1
1960.2	.2
1960.3	.4
1960.4	.4
1961.1	.2
1961.2	.2
1961.3	.3
1961.4	.1
1962.1	.4
1962.2	.5
1962.3	.9
1962.4	1.1
1963.1	.7
1963.2	.5
1963.3	.6
1963.4	1.2
1964.1	.0
1964.2	-.9
1964.3	-1.0
1964.4	-.5
1965.1	.0
1965.2	.8
1965.3	1.3
1966.1	.3
1966.2	-.1
1966.3	-.4
1966.4	-.5
1967.1	.1
1967.2	.6
1967.3	.9
1967.4	1.4
1968.1	.1
1968.2	.2
1968.3	.2
1968.4	.1
1969.1	.0
1969.2	.0
1969.3	.0
1969.4	.1
1970.1	.2
1970.2	.1
1970.3	.1
1970.4	.1
1971.1	1.1
1971.2	1.3
1971.3	1.8
1971.4	1.6
1972.1	.1
1972.2	.3
1972.3	.0
1972.4	.1
1973.1	.1
1973.2	.2
1973.3	1.0
1973.4	.4

ΔI_{im} - Manufacturing Inventory Investment (1958 $)

1960.1	.2	1967.1	1.6
1960.2	1.1	1967.2	1.7
1960.3	- .1	1967.3	.8
1960.4	- .8	1967.4	.8
1961.1	- .5	1968.1	1.4
1961.2	- .2	1968.2	1.4
1961.3	.6	1968.3	.8
1961.4	.1	1968.4	1.6
1962.1	1.2	1969.1	1.3
1962.2	.6	1969.2	1.8
1962.3	.3	1969.3	1.5
1962.4	.2	1969.4	1.3
1963.1	.6	1970.1	.9
1963.2	.4	1970.2	.8
1963.3	1.5	1970.3	.6
1963.4	- .2	1970.4	.9
1964.1	.4	1971.1	.7
1964.2	.3	1971.2	- .1
1964.3	.3	1971.3	.6
1964.4	1.5	1971.4	.3
1965.1	1.0	1972.1	.3
1965.2	.8	1972.2	.6
1965.3	1.4	1972.3	1.4
1965.4	1.0	1972.4	1.5
1966.1	1.6	1973.1	1.3
1966.2	.8	1973.2	1.7
1966.3	1.3	1973.3	2.1
1966.4	1.3	1973.4	2.4

ΔI_{in} - Nonmanufacturing, Nonfarm, Inventory Investment

1960.1	9.5	1967.1	6.3
1960.2	2.5	1967.2	0.4
1960.3	2.7	1967.3	3.7
1960.4	-2.2	1967.4	5.9
1961.1	-3.1	1968.1	.2
1961.2	2.0	1968.2	8.2
1961.3	2.9	1968.3	5.8
1961.4	5.2	1968.4	7.2
1962.1	4.8	1969.1	4.6
1962.2	4.7	1969.2	5.0
1962.3	4.1	1969.3	7.9
1962.4	4.9	1969.4	3.2
1963.1	3.3	1970.1	.7
1963.2	3.8	1970.2	3.5
1963.3	3.8	1970.3	4.2
1963.4	7.1	1970.4	3.5
1964.1	3.1	1971.1	4.1
1964.2	4.6	1971.2	5.4
1964.3	4.2	1971.3	1.6
1964.4	6.4	1971.4	2.8
1965.1	8.3	1972.1	.7
1965.2	5.7	1972.2	3.6
1965.3	5.7	1972.3	5.2
1965.4	7.9	1972.4	4.7
1966.1	7.6	1973.1	1.9
1966.2	12.9	1973.2	1.6
1966.3	9.8	1973.3	0.2
1966.4	16.4	1973.4	9.7

i_L - Average Yield on Corporate Bonds (%)

1960.1	4.86	1967.1	5.42
1960.2	4.78	1967.2	5.57
1960.3	4.64	1967.3	5.92
1960.4	4.64	1967.4	6.33
1961.1	4.59	1968.1	6.42
1961.2	4.59	1968.2	6.58
1961.3	4.72	1968.3	6.43
1961.4	4.71	1968.4	6.59
1962.1	4.69	1969.1	6.97
1962.2	4.60	1969.2	7.18
1962.3	4.63	1969.3	7.43
1962.4	4.55	1969.4	7.87
1963.1	4.48	1970.1	8.26
1963.2	4.47	1970.2	8.47
1963.3	4.50	1070.3	8.75
1963.4	4.54	1970.4	8.54
1964.1	4.56	1971.1	7.87
1964.2	4.59	1971.2	8.10
1964.3	4.57	1971.3	8.07
1964.4	4.58	1971.4	7.80
1965.1	4.56	1972.1	7.67
1965.2	4.60	1972.2	7.69
1965.3	4.66	1972.3	7.62
1965.4	4.77	1972.4	7.53
1966.1	4.97	1973.1	7.56
1966.2	5.20	1973.2	7.64
1966.3	5.52	1973.3	7.96
1966.4	5.67	1973.4	8.01

I_p - Total Fixed Business Investment (Constant 1958 Dollars)

1960.1	67.6	1967.1	91.1
1960.2	69.1	1967.2	92.0
1960.3	67.5	1967.3	93.7
1960.4	67.2	1967.4	95.4
1961.1	65.2	1968.1	98.5
1961.2	65.1	1968.2	97.6
1961.3	66.8	1968.3	97.5
1961.4	68.6	1968.4	99.9
1962.1	70.1	1969.1	103.2
1962.2	72.5	1969.2	103.6
1962.3	74.7	1969.3	103.9
1962.4	73.9	1969.4	102.5
1963.1	73.6	1970.1	100.3
1963.2	75.4	1970.2	98.9
1963.3	76.7	1970.3	100.2
1963.4	79.2	1970.4	97.1
1964.1	80.7	1971.1	100.4
1964.2	81.1	1971.2	103.4
1964.3	81.7	1971.3	105.0
1964.4	82.3	1971.4	109.7
1965.1	86.1	1972.1	115.0
1965.2	87.5	1972.2	116.3
1965.3	88.9	1972.3	117.8
1965.4	91.4	1972.4	122.5
1966.1	95.7	1973.1	126.5
1966.2	94.9	1973.2	126.6
1966.3	95.5	1973.3	127.3
1966.4	93.5	1973.4	124.6

I_{pf} - 1958 \$ Constant Billions

1960.1	3.1	1967.1	4.4
1960.2	3.0	1967.2	4.6
1960.3	3.2	1967.3	4.6
1960.4	3.1	1967.4	4.7
1961.1	3.7	1968.1	4.6
1961.2	3.7	1968.2	4.8
1961.3	3.7	1968.3	4.5
1961.4	3.9	1968.4	4.5
1962.1	3.5	1969.1	4.0
1962.2	3.5	1969.2	4.3
1962.3	3.7	1969.3	3.7
1962.4	3.7	1969.4	4.0
1963.1	3.9	1970.1	4.4
1963.2	4.0	1970.2	4.8
1963.3	4.1	1970.3	5.1
1963.4	4.2	1970.4	4.7
1964.1	3.8	1971.1	4.9
1964.2	4.0	1971.2	5.1
1964.3	4.3	1971.3	5.4
1964.4	4.0	1971.4	5.4
1965.1	3.9	1972.1	4.7
1965.2	4.0	1972.2	4.8
1965.3	4.6	1972.3	5.5
1965.4	5.1	1972.4	5.9
1966.1	4.7	1973.1	5.7
1966.2	4.5	1973.2	6.2
1966.3	4.6	1973.3	6.2
1966.4	5.1	1973.4	6.4

I_{pm} - Manufacturing Fixed Business Investment (1958 $ Billions)

1960.1	13.65	1967.1	24.43
1960.2	14.20	1967.2	23.52
1960.3	14.17	1967.3	22.41
1960.4	13.94	1967.4	22.05
1961.1	13.36	1968.1	23.84
1961.2	13.02	1968.2	23.24
1961.3	13.07	1968.3	23.85
1961.4	13.37	1968.4	23.47
1962.1	13.59	1969.1	24.19
1962.2	13.78	1969.2	24.83
1962.3	14.31	1969.3	25.96
1962.4	14.27	1969.4	25.17
1963.1	14.10	1970.1	24.93
1963.2	14.46	1970.2	24.61
1963.3	14.31	1970.3	24.25
1963.4	14.27	1970.4	22.84
1964.1	16.31	1971.1	22.15
1964.2	16.57	1971.2	21.64
1964.3	17.44	1971.3	20.60
1964.4	18.54	1971.4	21.48
1965.1	19.04	1972.1	20.95
1965.2	19.73	1972.2	20.94
1965.3	20.99	1972.3	21.18
1965.4	21.88	1972.4	22.76
1966.1	23.19	1973.1	23.74
1966.2	24.08	1973.2	23.97
1966.3	24.55	1973.3	25.12
1966.4	24.54	1973.4	25.87

I_{pn} - Nonmanufacturing, Nonfarm Fixed Business Investments (1958 $)

1960.1	55.95	1967.1	66.57
1960.2	54.90	1967.2	68.48
1960.3	53.33	1967.3	71.29
1960.4	53.26	1967.4	73.35
1961.1	51.84	1968.1	74.66
1961.2	52.08	1968.2	74.36
1961.3	53.73	1968.3	73.65
1961.4	55.23	1968.4	76.43
1962.1	56.51	1969.1	79.01
1962.2	58.72	1969.2	78.77
1962.3	60.39	1969.3	77.94
1962.4	59.63	1969.4	77.33
1963.1	59.5	1970.1	75.37
1963.2	60.94	1970.2	74.79
1963.3	61.7	1970.3	75.95
1963.4	63.74	1970.4	74.26
1964.1	64.39	1971.1	78.25
1964.2	64.53	1971.2	81.76
1964.3	64.26	1971.3	84.40
1964.4	63.26	1971.4	88.22
1965.1	67.06	1972.1	94.05
1965.2	67.77	1972.2	95.36
1965.3	68.00	1972.3	96.62
1965.4	67.52	1972.4	99.74
1966.1	72.51	1973.1	102.86
1966.2	70.82	1973.2	102.63
1966.3	70.95	1973.3	102.18
1966.4	68.95	1973.4	98.73

i_s - Interest Rate on Prime Commercial Paper 4-6 mo.

1960.1	4.08	1967.1	5.45
1960.2	4.07	1967.2	4.71
1960.3	3.37	1967.3	4.97
1960.4	3.27	1967.4	5.30
1961.1	3.01	1968.1	5.58
1961.2	2.86	1968.2	6.08
1961.3	2.89	1968.3	5.96
1961.4	3.06	1968.4	5.96
1962.1	3.24	1969.1	6.65
1962.2	3.20	1969.2	7.54
1962.3	3.33	1969.3	8.48
1962.4	3.26	1969.4	8.62
1963.1	3.31	1970.1	8.55
1963.2	3.31	1970.2	8.16
1963.3	3.69	1970.3	7.83
1963.4	3.91	1970.4	6.29
1964.1	3.95	1971.1	4.59
1964.2	3.93	1971.2	5.04
1964.3	3.91	1971.3	5.74
1964.4	4.06	1971.4	5.06
1965.1	4.30	1972.1	3.98
1965.2	4.38	1972.2	4.66
1965.3	4.38	1972.3	4.88
1965.4	4.47	1972.4	5.26
1966.1	4.97	1973.1	6.23
1966.2	5.42	1973.2	7.46
1966.3	5.79	1973.3	9.94
1966.4	6.00	1973.4	9.17

IVA

1960.1	- .6	1967.1	- .1
1960.2	- .2	1967.2	- .7
1960.3	1.2	1967.3	- .4
1960.4	.5	1967.4	-3.3
1961.1	- .1	1968.1	-5.4
1961.2	.5	1968.2	-2.6
1961.3	- .3	1968.3	- .9
1961.4	- .3	1968.4	-4.2
1962.1	- .1	1969.1	-6.0
1962.2	.0	1969.2	-6.3
1962.3	.1	1969.3	-2.4
1962.4	.9	1969.4	-7.1
1963.1	.2	1970.1	-6.4
1963.2	- .9	1970.2	-3.7
1963.3	.2	1970.3	-4.4
1963.4	-1.3	1970.4	-3.8
1964.1	- .5	1971.1	-5.0
1964.2	- .3	1971.2	-5.0
1964.3	- .4	1971.3	-6.1
1964.4	-1.0	1971.4	-3.6
1965.1	-1.4	1972.1	-6.6
1965.2	-2.1	1972.2	-6.7
1965.3	-1.1	1972.3	-6.9
1965.4	-2.3	1972.4	-7.3
1966.1	-2.6	1973.1	-15.4
1966.2	-2.2	1973.2	-21.1
1966.3	-3.0	1973.3	-17.0
1966.4	.5	1973.4	-15.5

K - Capital Stock

1960.1	279.32	1967.1	346.05
1960.2	280.88	1967.2	349.28
1960.3	282.08	1967.3	352.46
1960.4	282.69	1967.4	355.89
1961.1	283.24	1968.1	359.60
1961.2	283.37	1968.2	364.00
1961.3	283.54	1968.3	368.04
1961.4	284.14	1968.4	371.87
1962.1	285.15	1969.1	375.98
1962.2	286.46	1969.2	380.59
1962.3	288.27	1969.3	384.99
1962.4	290.66	1969.4	389.25
1963.1	292.63	1970.1	393.00
1963.2	294.34	1970.2	396.01
1963.3	296.41	1970.3	398.56
1963.4	298.68	1970.4	401.35
1964.1	301.46	1971.1	403.44
1964.2	304.49	1971.2	406.13
1964.3	307.42	1971.3	409.42
1964.4	310.30	1971.4	412.87
1965.1	313.15	1972.1	417.22
1965.2	316.83	1972.2	422.57
1965.3	320.42	1972.3	427.90
1965.4	324.11	1972.4	433.26
1966.1	328.21	1973.1	439.52
1966.2	333.20	1973.2	446.44
1966.3	337.75	1973.3	453.00
1966.4	342.22	1973.4	459.38

K_a - Capital Stock of Automobiles

1960.1	59.292	1967.1	88.265
1960.2	60.0	1967.2	89.73
1960.3	60.592	1967.3	90.912
1960.4	60.78	1967.4	91.885
1961.1	60.565	1968.1	93.875
1961.2	60.51	1968.2	95.835
1961.3	60.718	1968.3	98.31
1961.4	61.162	1968.4	100.552
1962.1	61.925	1969.1	102.92
1962.2	62.72	1969.2	104.872
1962.3	63.628	1969.3	106.685
1962.4	64.68	1969.4	108.442
1963.1	65.792	1970.1	109.365
1963.2	66.872	1970.2	110.488
1963.3	67.998	1970.3	111.375
1963.4	69.145	1970.4	110.558
1964.1	70.375	1971.1	112.235
1964.2	71.635	1971.2	113.972
1964.3	73.032	1971.3	116.372
1964.4	73.782	1971.4	118.702
1965.1	75.938	1972.1	121.028
1965.2	77.702	1972.2	123.52
1965.3	79.568	1972.3	126.558
1965.4	81.358	1972.4	129.802
1966.1	83.442	1973.1	133.798
1966.2	84.652	1973.2	137.185
1966.3	86.14	1973.3	140.105
1966.4	87.54	1973.4	141.262

K_f - Capital Stock of Farm Investment

1960.1	31.6	1967.1	35.1
1960.2	31.6	1967.2	35.5
1960.3	31.5	1967.3	35.9
1960.4	31.4	1967.4	36.2
1961.1	31.4	1968.1	36.4
1961.2	31.4	1968.2	36.6
1961.3	31.4	1968.3	36.8
1961.4	31.4	1968.4	37.1
1962.1	31.4	1969.1	37.3
1962.2	31.4	1969.2	37.5
1962.3	31.5	1969.3	37.7
1962.4	31.5	1969.4	37.9
1963.1	31.7	1970.1	38.1
1963.2	31.9	1970.2	38.3
1963.3	32.0	1970.3	38.5
1963.4	32.1	1970.4	38.7
1964.1	32.2	1971.1	38.9
1964.2	32.3	1971.2	39.0
1964.3	32.5	1971.3	39.2
1964.4	32.6	1971.4	39.3
1965.1	32.9	1972.1	39.6
1965.2	33.2	1972.2	39.9
1965.3	33.3	1972.3	40.1
1965.4	33.5	1972.4	40.3
1966.1	33.8	1973.1	40.4
1966.2	34.1	1973.2	40.5
1966.3	34.4	1973.3	40.6
1966.4	34.7	1973.4	40.7

K_n

1960.1	95.2800	1967.1	99.26
1960.2	95.6701	1967.2	98.17
1960.3	95.6033	1967.3	97.42
1960.4	95.2629	1967.4	97.23
1961.1	94.9142	1968.1	97.43
1961.2	94.6482	1968.2	97.60
1961.3	94.5479	1968.3	98.68
1961.4	94.6395	1968.4	98.72
1962.1	94.9333	1969.1	98.93
1962.2	95.3305	1969.2	99.25
1962.3	95.8818	1969.3	99.56
1962.4	96.4874	1969.4	99.68
1963.1	96.9595	1970.1	99.39
1963.2	97.4952	1970.2	99.19
1963.3	98.1136	1970.3	98.73
1963.4	98.7303	1970.4	98.56
1964.1	99.48	1971.1	98.94
1964.2	100.33	1971.2	99.75
1964.3	100.42	1971.3	101.07
1964.4	100.60	1971.4	102.71
1965.1	100.65	1972.1	104.65
1965.2	100.79	1972.2	107.02
1965.3	100.82	1972.3	109.31
1965.4	100.86	1972.4	111.68
1966.1	100.96	1973.1	113.94
1966.2	101.05	1973.2	116.23
1966.3	100.81	1973.3	118.33
1966.4	100.29	1973.4	120.13

K_{im} - Stock of Manufacturing Inventories

1960.1	57.8	1967.1	80.7
1960.2	58.0	1967.2	81.1
1960.3	58.0	1967.3	81.3
1960.4	59.2	1967.4	84.2
1961.1	59.1	1968.1	84.6
1961.2	59.1	1968.2	85.0
1961.3	59.2	1968.3	85.2
1961.4	60.3	1968.4	88.2
1962.1	60.6	1969.1	88.5
1962.2	60.7	1969.2	88.9
1962.3	60.8	1969.3	89.3
1962.4	63.1	1969.4	91.0
1963.1	63.2	1970.1	91.2
1963.2	63.3	1970.2	91.4
1963.3	63.7	1970.3	91.5
1963.4	65.1	1970.4	93.2
1964.1	65.2	1971.1	93.4
1964.2	65.3	1971.2	93.4
1964.3	65.4	1971.3	93.5
1964.4	68.0	1971.4	90.7
1965.1	68.2	1972.1	90.8
1965.2	68.4	1972.2	90.9
1965.3	68.8	1972.3	91.3
1965.4	71.8	1972.4	91.7
1966.1	72.2	1973.1	92.0
1966.2	72.4	1973.2	92.4
1966.3	72.8	1973.3	93.0
1966.4	80.3	1973.4	93.6

K_{in}

1960.1	50.8	1967.1	70.2
1960.2	51.4	1967.2	70.6
1960.3	52.1	1967.3	70.8
1960.4	50.3	1967.4	72.9
1961.1	49.5	1968.1	73.2
1961.2	50.0	1968.2	73.5
1961.3	50.7	1968.3	73.7
1961.4	50.9	1968.4	75.2
1962.1	52.1	1969.1	75.7
1962.2	53.3	1969.2	75.8
1962.3	54.1	1969.3	76.2
1962.4	53.4	1969.4	79.1
1963.1	54.2	1970.1	80.1
1963.2	55.1	1970.2	80.3
1963.3	56.0	1970.3	80.4
1963.4	56.4	1970.4	80.9
1964.1	57.2	1971.1	81.2
1964.2	58.3	1971.2	81.2
1964.3	59.3	1971.3	81.6
1964.4	59.9	1971.4	85.2
1965.1	62.0	1972.1	85.3
1965.2	63.4	1972.2	85.4
1965.3	64.8	1972.3	85.8
1965.4	64.2	1972.4	86.2
1966.1	66.1	1973.1	86.6
1966.2	69.3	1973.2	87.0
1966.3	69.6	1973.3	87.5
1966.4	69.8	1973.4	88.1

K_m - Capital Stock of Manufacturing Investment

1960.1	59.29	1967.1	75.85
1960.2	59.45	1967.2	77.52
1960.3	59.71	1967.3	78.88
1960.4	59.90	1967.4	79.91
1961.1	59.96	1968.1	80.85
1961.2	59.92	1968.2	82.27
1961.3	59.74	1968.3	83.54
1961.4	59.56	1968.4	84.92
1962.1	59.44	1969.1	86.15
1962.2	59.37	1969.2	87.50
1962.3	59.34	1969.3	88.91
1962.4	59.48	1969.4	90.50
1963.1	59.58	1970.1	91.81
1963.2	59.64	1970.2	92.96
1963.3	59.76	1970.3	93.96
1963.4	60.02	1970.4	94.83
1964.1	60.37	1971.1	95.33
1964.2	60.92	1971.2	95.66
1964.3	61.53	1971.3	95.87
1964.4	62.33	1971.4	95.82
1965.1	63.35	1972.1	95.97
1965.2	64.48	1972.2	95.98
1965.3	65.68	1972.3	95.98
1965.4	67.09	1972.4	96.01
1966.1	68.62	1973.1	96.43
1966.2	70.40	1973.2	97.06
1966.3	72.26	1973.3	97.71
1966.4	74.10	1973.4	98.58

K_n - Capital Stock of Nonmanufacturing, Nonfarm, Nonresidential Construction

1960.1	220.02	1967.1	270.20
1960.2	221.43	1967.2	271.76
1960.3	222.37	1967.3	273.58
1960.4	222.78	1967.4	275.97
1961.1	223.26	1968.1	278.75
1961.2	223.45	1968.2	281.73
1961.3	223.80	1968.3	284.51
1961.4	224.58	1968.4	286.95
1962.1	225.71	1969.1	289.83
1962.2	227.09	1969.2	293.08
1962.3	228.93	1969.3	296.08
1962.4	231.18	1969.4	298.74
1963.1	233.04	1970.1	301.19
1963.2	234.71	1970.2	303.47
1963.3	236.65	1970.3	304.60
1963.4	238.66	1970.4	306.52
1964.1	241.09	1971.1	308.10
1964.2	243.57	1971.2	310.46
1964.3	245.90	1971.3	313.54
1964.4	247.98	1971.4	317.05
1965.1	249.80	1972.1	321.25
1965.2	252.35	1972.2	326.59
1965.3	254.74	1972.3	331.92
1965.4	257.02	1972.4	337.24
1966.1	259.59	1973.1	343.09
1966.2	262.81	1973.2	349.38
1966.3	265.49	1973.3	335.29
1966.4	268.12	1973.4	360.79

L_m

1960.1	26.5	1967.1	36.5
1960.2	25.3	1967.2	36.6
1960.3	24.2	1967.3	36.1
1960.4	23.4	1967.4	37.1
1961.1	23.0	1968.1	37.2
1961.2	24.5	1968.2	37.4
1961.3	25.1	1968.3	36.7
1961.4	26.7	1968.4	37.2
1962.1	29.6	1969.1	36.1
1962.2	29.6	1969.2	35.5
1962.3	29.9	1969.3	33.9
1962.4	30.4	1969.4	33.2
1963.1	29.8	1970.1	31.9
1963.2	26.2	1970.2	31.3
1963.3	31.5	1970.3	31.1
1963.4	32.5	1970.4	28.6
1964.1	33.8	1971.1	31.5
1964.2	34.1	1971.2	31.6
1964.3	34.6	1971.3	32.0
1964.4	34.5	1971.4	32.4
1965.1	37.4	1972.1	33.2
1965.2	37.5	1972.2	34.1
1965.3	38.1	1972.3	34.2
1965.4	39.4	1972.4	35.9
1966.1	38.6	1973.1	38.1
1966.2	38.6	1973.2	39.3
1966.3	38.8	1973.3	38.6
1966.4	38.1	1973.4	37.7

N_e - Employees in the Private Sector

1960.1	50.306	1967.1	56.365
1960.2	49.426	1967.2	56.317
1960.3	50.082	1967.3	56.933
1960.4	50.435	1967.4	57.316
1961.1	50.906	1968.1	57.294
1961.2	51.156	1968.2	57.528
1961.3	51.185	1968.3	57.775
1961.4	50.651	1968.4	57.815
1962.1	50.756	1969.1	59.458
1962.2	50.952	1969.2	59.108
1962.3	51.804	1969.3	59.985
1962.4	51.543	1969.4	60.469
1963.1	51.820	1970.1	61.268
1963.2	52.385	1970.2	61.211
1963.3	52.767	1970.3	61.546
1963.4	52.420	1970.4	62.004
1964.1	53.368	1971.1	62.165
1964.2	54.036	1971.2	62.090
1964.3	53.800	1971.3	62.783
1964.4	53.952	1971.4	63.375
1965.1	54.413	1972.1	63.880
1965.2	54.405	1972.2	64.491
1965.3	55.158	1972.3	64.591
1965.4	55.561	1972.4	64.905
1966.1	54.483	1973.1	65.260
1966.2	54.502	1973.2	66.139
1966.3	55.120	1973.3	66.409
1966.4	55.654	1973.4	67.051

N_f - Agricultural Employees

1960.1	4.801	1967.1	3.908
1960.2	5.799	1967.2	3.770
1960.3	6.489	1967.3	3.833
1960.4	5.745	1967.4	3.924
1961.1	5.757	1968.1	4.048
1961.2	5.376	1968.2	3.908
1961.3	5.430	1968.3	3.740
1961.4	5.329	1968.4	3.691
1962.1	5.455	1969.1	3.788
1962.2	5.252	1969.2	3.724
1962.3	5.106	1969.3	3.548
1962.4	4.955	1969.4	3.422
1963.1	4.982	1970.1	3.492
1963.2	4.984	1970.2	3.584
1963.3	4.919	1970.3	3.446
1963.4	4.911	1970.4	3.344
1964.1	4.770	1971.1	3.379
1964.2	4.822	1971.2	3.437
1964.3	4.832	1971.3	3.379
1964.4	4.644	1971.4	3.392
1965.1	4.576	1972.1	3.411
1965.2	4.763	1972.2	3.338
1965.3	4.543	1972.3	3.548
1965.4	4.437	1972.4	3.608
1966.1	4.137	1973.1	3.468
1966.2	4.027	1973.2	3.330
1966.3	3.916	1973.3	3.443
1966.4	3.894	1973.4	3.612

N_g - Government Employees

1960.1	8.368	1967.1	11.378
1960.2	8.448	1967.2	11.545
1960.3	8.472	1967.3	11.683
1960.4	8.548	1967.4	11.823
1961.1	8.726	1968.1	12.017
1961.2	8.800	1968.2	12.151
1961.3	8.658	1968.3	12.248
1961.4	9.127	1968.4	12.363
1962.1	9.089	1969.1	12.112
1962.2	9.162	1969.2	12.203
1962.3	8.990	1969.3	12.226
1962.4	9.494	1969.4	12.354
1963.1	9.500	1970.1	12.445
1963.2	9.531	1970.2	12.590
1963.3	9.285	1970.3	12.590
1963.4	9.824	1970.4	12.764
1964.1	9.374	1971.1	12.752
1964.2	9.454	1971.2	12.842
1964.3	9.477	1971.3	12.837
1964.4	9.642	1971.4	12.961
1965.1	9.844	1972.1	13.140
1965.2	9.964	1972.2	13.239
1965.3	10.086	1972.3	13.320
1965.4	10.257	1972.4	13.445
1966.1	10.527	1973.1	13.528
1966.2	10.783	1973.2	13.638
1966.3	10.927	1973.3	13.629
1966.4	11.097	1973.4	13.802

NI - National Income

1960.1	413.9	1967.1	638.6
1960.2	417.2	1967.2	645.1
1960.3	416.6	1967.3	656.9
1960.4	414.4	1967.4	670.9
1961.1	411.8	1968.1	688.1
1961.2	424.3	1968.2	705.4
1961.3	431.3	1968.3	722.5
1961.4	444.0	1968.4	735.1
1962.1	447.2	1969.1	746.6
1962.2	454.3	1969.2	761.9
1962.3	457.8	1969.3	774.6
1962.4	463.2	1969.4	781.0
1963.1	467.9	1970.1	788.8
1963.2	474.6	1970.2	797.4
1963.3	481.9	1970.3	809.3
1963.4	490.0	1970.4	806.3
1964.1	504.0	1971.1	835.9
1964.2	513.7	1971.2	853.6
1964.3	522.9	1971.3	865.6
1964.4	528.5	1971.4	882.7
1965.1	543.3	1972.1	911.0
1965.2	552.2	1972.2	928.3
1965.3	562.7	1972.3	949.2
1965.4	577.8	1972.4	978.6
1966.1	595.7	1973.1	1015.0
1966.2	604.1	1973.2	1038.2
1966.3	613.8	1973.3	1067.4
1966.4	626.7	1973.4	1095.1

NI_m - National Income Originating in Manufacturing Sector

1960.1	125.4	1967.1	193.5
1960.2	122.7	1967.2	193.3
1960.3	120.1	1967.3	195.1
1960.4	116.4	1967.4	198.9
1961.1	113.3	1968.1	205.6
1961.2	118.5	1968.2	211.8
1961.3	121.0	1968.3	214.7
1961.4	126.9	1968.4	218.6
1962.1	133.9	1969.1	220.2
1962.2	136.5	1969.2	222.6
1962.3	138.0	1969.3	224.1
1962.4	139.7	1969.4	222.3
1963.1	139.0	1970.1	219.2
1963.2	142.9	1970.2	219.6
1963.3	145.5	1970.3	221.1
1963.4	148.0	1970.4	210.2
1964.1	151.3	1971.1	222.7
1964.2	154.5	1971.2	225.7
1964.3	158.2	1971.3	226.0
1964.4	158.3	1971.4	231.1
1965.1	167.5	1972.1	241.3
1965.2	169.9	1972.2	248.7
1965.3	173.7	1972.3	253.9
1965.4	179.3	1972.4	266.5
1966.1	185.8	1973.1	280.8
1966.2	190.1	1973.2	290.4
1966.3	193.2	1973.3	295.0
1966.4	196.7	1973.4	298.6

N_L - Total Labor Force

1960.1	69.740	1967.1	76.843
1960.2	69.973	1967.2	76.843
1960.3	71.315	1967.3	77.633
1960.4	71.1027	1967.4	78.178
1961.1	71.838	1968.1	78.418
1961.2	71.623	1968.2	78.658
1961.3	71.468	1968.3	78.841
1961.4	71.409	1968.4	79.070
1962.1	71.650	1969.1	80.575
1962.2	71.680	1969.2	80.318
1962.3	72.060	1969.3	81.056
1962.4	71.942	1969.4	81.457
1963.1	72.430	1970.1	82.410
1963.2	72.938	1970.2	82.517
1963.3	73.095	1970.3	82.840
1963.4	73.321	1970.4	83.397
1964.1	73.757	1971.1	83.585
1964.2	74.430	1971.2	83.698
1964.3	74.241	1971.3	84.246
1964.4	74.458	1971.4	85.101
1965.1	74.989	1972.1	85.852
1965.2	75.420	1972.2	86.888
1965.3	75.812	1972.3	86.792
1965.4	76.175	1972.4	87.217
1966.1	75.199	1973.1	87.586
1966.2	75.386	1973.2	88.562
1966.3	75.959	1973.3	88.955
1966.4	76.486	1973.4	89.912

N_s - Self Employed Workers

1960.1	6.265	1967.1	5.192
1960.2	6.300	1967.2	5.211
1960.3	6.272	1967.3	5.184
1960.4	6.375	1967.4	5.115
1961.1	6.449	1968.1	5.059
1961.2	6.291	1968.2	5.071
1961.3	6.195	1968.3	5.078
1961.4	6.302	1968.4	5.201
1962.1	6.350	1969.1	5.217
1962.2	6.314	1969.2	5.283
1962.3	6.160	1969.3	5.297
1962.4	5.950	1969.4	5.212
1963.1	6.128	1970.1	5.205
1963.2	6.038	1970.2	5.132
1963.3	6.124	1970.3	5.258
1963.4	6.166	1970.4	5.285
1964.1	6.245	1971.1	5.289
1964.2	6.118	1971.2	5.329
1964.3	6.132	1971.3	5.247
1964.4	6.220	1971.4	5.373
1965.1	6.156	1972.1	5.421
1965.2	6.288	1972.2	5.320
1965.3	6.025	1972.3	5.333
1965.4	5.920	1972.4	5.259
1966.1	6.052	1973.1	5.330
1966.2	6.074	1973.2	5.455
1966.3	5.996	1973.3	5.474
1966.4	5.841	1973.4	5.447

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1960.1	1.026	1967.1	1.160
1960.2	1.030	1967.2	1.166
1960.3	1.034	1967.3	1.177
1960.4	1.040	1967.4	1.189
1961.1	1.043	1968.1	1.204
1961.2	1.045	1968.2	1.216
1961.3	1.045	1968.3	1.229
1961.4	1.051	1968.4	1.243
1962.1	1.055	1969.1	1.256
1962.2	1.056	1969.2	1.272
1962.3	1.058	1969.3	1.291
1962.4	1.063	1969.4	1.309
1963.1	1.067	1970.1	1.330
1963.2	1.070	1970.2	1.344
1963.3	1.072	1970.3	1.357
1963.4	1.078	1970.4	1.378
1964.1	1.082	1971.1	1.398
1964.2	1.085	1971.2	1.413
1964.3	1.091	1971.3	1.424
1964.4	1.096	1971.4	1.429
1965.1	1.102	1972.1	1.448
1965.2	1.107	1972.2	1.454
1965.3	1.110	1972.3	1.464
1965.4	1.115	1972.4	1.476
1966.1	1.123	1973.1	1.498
1966.2	1.133	1973.2	1.524
1966.3	1.142	1973.3	1.551
1966.4	1.152	1973.4	1.584

P_a

1960.1	1.013	1967.1	.983
1960.2	1.013	1967.2	.983
1060.3	1.003	1967.3	1.000
1960.4	.999	1967.4	1.016
1961.1	.997	1968.1	1.020
1961.2	1.002	1968.2	1.023
1961.3	1.007	1968.3	1.027
1961.4	1.007	1968.4	1.035
1962.1	1.008	1969.1	1.039
1962.2	1.009	1969.2	1.046
1962.3	1.011	1969.3	1.056
1962.4	1.008	1969.4	1.058
1963.1	1.004	1970.1	1.066
1963.2	1.010	1970.2	1.074
1963.3	1.004	1970.3	1.086
1063.4	1.006	1970.4	1.118
1964.1	1.009	1971.1	1.064
1964.2	1.007	1971.2	1.072
1964.3	1.006	1971.3	1.086
1964.4	1.000	1971.4	1.124
1965.1	1.008	1972.1	1.142
1965.2	1.002	1972.2	1.144
1965.3	.988	1972.3	1.125
1965.4	.989	1972.4	1.102
1966.1	.975	1973.1	1.122
1966.2	.979	1973.2	1.126
1966.3	.976	1973.3	1.127
1966.4	.985	1973.4	1.111

P_c

1960.1	1.023	1967.1	1.132
1960.2	1.027	1967.2	1.137
1960.3	1.030	1967.3	1.147
1960.4	1.036	1967.4	1.157
1961.1	1.038	1968.1	1.168
1961.2	1.037	1968.2	1.188
1961.3	1.039	1968.3	1.180
1961.4	1.041	1968.4	1.201
1962.1	1.045	1969.1	1.211
1962.2	1.047	1969.2	1.227
1962.3	1.050	1969.3	1.243
1962.4	1.053	1969.4	1.259
1963.1	1.056	1970.1	1.274
1963.2	1.060	1970.2	1.286
1963.3	1.062	1970.3	1.297
1963.4	1.067	1970.4	1.315
1964.1	1.069	1971.1	1.328
1964.2	1.073	1971.2	1.340
1964.3	1.074	1971.3	1.348
1964.4	1.078	1971.4	1.352
1965.1	1.082	1972.1	1.366
1965.2	1.088	1972.2	1.374
1965.3	1.091	1972.3	1.382
1965.4	1.093	1972.4	1.392
1966.1	1.101	1973.1	1.410
1966.2	1.112	1973.2	1.438
1966.3	1.117	1973.3	1.462
1966.4	1.126	1973.4	1.497

P_{ca} - Corporate Profits After Taxes

1960.1	24.1	1967.1	45.7
1960.2	22.6	1967.2	45.9
1960.3	20.9	1967.3	46.2
1960.4	20.4	1967.4	48.9
1961.1	19.5	1968.1	47.1
1961.2	21.8	1968.2	48.1
1961.3	22.0	1968.3	47.4
1961.4	24.5	1968.4	48.5
1962.1	30.7	1969.1	47.4
1962.2	30.9	1969.2	46.6
1962.3	31.5	1969.3	43.2
1962.4	31.8	1969.4	42.1
1963.1	31.1	1970.1	40.8
1963.2	32.8	1970.2	39.5
1963.3	33.5	1970.3	39.9
1963.4	34.9	1970.4	36.7
1964.1	37.7	1971.1	43.8
1964.2	38.2	1971.2	47.1
1964.3	39.1	1971.3	49.0
1964.4	38.8	1971.4	50.6
1965.1	44.5	1972.1	52.2
1965.2	45.7	1972.2	53.4
1965.3	46.3	1972.3	55.6
1965.4	49.3	1972.4	60.3
1966.1	49.8	1973.1	66.9
1966.2	50.0	1973.2	71.6
1966.3	50.7	1973.3	71.5
1966.4	49.3	1973.4	71.6

P_{cb} - Corporation Profits Before Taxes After Inventory Valuation Adjustment

1960.1	47.9	1967.1	78.3
1960.2	45.2	1967.2	78.0
1960.3	43.2	1967.3	78.4
1960.4	41.5	1967.4	80.0
1961.1	39.2	1968.1	81.1
1961.2	44.3	1968.2	85.4
1961.3	44.0	1968.3	85.9
1961.4	49.0	1968.4	84.7
1962.1	54.3	1969.1	83.0
1962.2	54.9	1969.2	82.8
1962.3	56.1	1969.3	79.8
1962.4	57.4	1969.4	73.5
1963.1	56.0	1970.1	69.8
1963.2	58.0	1970.2	69.9
1963.3	60.3	1970.3	71.3
1963.4	61.4	1970.4	65.9
1964.1	64.9	1971.1	75.8
1964.2	66.2	1971.2	80.5
1964.3	67.6	1971.3	80.9
1964.4	66.4	1971.4	83.4
1965.1	73.1	1972.1	86.2
1965.2	74.4	1972.2	88.0
1965.3	76.5	1972.3	91.5
1965.4	80.3	1972.4	98.8
1966.1	81.5	1973.1	104.3
1966.2	82.1	1973.2	107.9
1966.3	82.5	1973.3	112.0
1966.4	83.7	1973.4	127.4

P_e

1960.1	.998	1967.1	1.098
1960.2	.996	1967.2	1.092
1960.3	1.003	1967.3	1.093
1960.4	1.006	1967.4	1.097
1961.1	1.007	1968.1	1.088
1961.2	1.023	1968.2	1.114
1961.3	1.018	1968.3	1.113
1961.4	1.027	1968.4	1.118
1962.1	1.020	1969.1	1.124
1962.2	1.006	1969.2	1.129
1962.3	1.002	1969.3	1.150
1962.4	1.006	1969.4	1.177
1963.1	1.011	1970.1	1.185
1963.2	1.007	1970.2	1.204
1963.3	1.003	1970.3	1.217
1963.4	1.004	1970.4	1.214
1964.1	1.005	1971.1	1.252
1964.2	1.008	1971.2	1.258
1964.3	1.017	1971.3	1.299
1964.4	1.029	1971.4	1.263
1965.1	1.044	1972.1	1.270
1965.2	1.046	1972.2	1.292
1965.3	1.049	1972.3	1.307
1965.4	1.047	1972.4	1.337
1966.1	1.056	1973.1	1.374
1966.2	1.071	1973.2	1.443
1966.3	1.080	1973.3	1.536
1966.4	1.095	1973.4	1.643

p_f - Prices Received by Farmers

1960.1	.956	1967.1	1.008
1960.2	.981	1967.2	1.000
1960.3	.959	1967.3	.994
1960.4	.983	1967.4	.985
1961.1	.974	1968.1	1.004
1961.2	.947	1968.2	1.018
1961.3	.960	1968.3	1.026
1961.4	.961	1968.4	1.041
1962.1	.976	1969.1	1.050
1962.2	.961	1969.2	1.085
1962.3	.983	1969.3	1.093
1962.4	.990	1969.4	1.121
1963.1	.962	1970.1	1.126
1963.2	.951	1970.2	1.101
1963.3	.960	1970.3	1.109
1963.4	.954	1970.4	1.087
1964.1	.948	1971.1	1.106
1964.2	.940	1971.2	1.129
1964.3	.940	1971.3	1.109
1964.4	.942	1971.4	1.087
1965.1	.939	1972.1	1.179
1965.2	.989	1972.2	1.202
1965.3	.990	1972.3	1.278
1965.4	1.017	1972.4	1.325
1966.1	1.060	1973.1	1.501
1966.2	1.050	1973.2	1.689
1966.3	1.076	1973.3	1.953
1966.4	1.039	1973.4	1.893

P_g

1960.1	1.033	1967.1	1.253
1960.2	1.044	1967.2	1.257
1960.3	1.053	1967.3	1.270
1960.4	1.062	1967.4	1.292
1961.1	1.069	1968.1	1.325
1961.2	1.072	1968.2	1.336
1961.3	1.062	1968.3	1.362
1961.4	1.082	1968.4	1.381
1962.1	1.084	1969.1	1.398
1962.2	1.086	1969.2	1.423
1962.3	1.089	1969.3	1.458
1962.4	1.100	1969.4	1.480
1963.1	1.106	1970.1	1.526
1963.2	1.112	1970.2	1.563
1963.3	1.117	1970.3	1.597
1963.4	1.134	1970.4	1.622
1964.1	1.145	1971.1	1.668
1964.2	1.148	1971.2	1.692
1964.3	1.164	1971.3	1.697
1964.4	1.174	1971.4	1.707
1965.1	1.180	1972.1	1.754
1965.2	1.189	1972.2	1.766
1965.3	1.198	1972.3	1.796
1965.4	1.211	1972.4	1.816
1966.1	1.217	1973.1	1.860
1966.2	1.227	1973.2	1.896
1966.3	1.242	1973.3	1.925
1966.4	1.251	1973.4	1.982

p_h

1960.1	1.045	1967.1	1.198
1960.2	1.047	1967.2	1.215
1960.3	1.045	1967.3	1.248
1960.4	1.041	1967.4	1.256
1961.1	1.041	1968.1	1.262
1961.2	1.049	1968.2	1.287
1961.3	1.057	1968.3	1.315
1961.4	1.055	1968.4	1.324
1962.1	1.056	1969.1	1.350
1962.2	1.064	1969.2	1.364
1962.3	1.075	1969.3	1.390
1962.4	1.073	1969.4	1.409
1963.1	1.075	1970.1	1.399
1963.2	1.084	1970.2	1.417
1963.3	1.095	1970.3	1.390
1963.4	1.102	1970.4	1.405
1964.1	1.104	1971.1	1.429
1964.2	1.117	1971.2	1.467
1964.3	1.132	1971.3	1.496
1964.4	1.140	1971.4	1.499
1965.1	1.132	1972.1	1.524
1965.2	1.137	1972.2	1.544
1965.3	1.146	1972.3	1.570
1965.4	1.152	1972.4	1.612
1966.1	1.159	1973.1	1.656
1966.2	1.170	1973.2	1.686
1966.3	1.181	1973.3	1.716
1966.4	1.190	1973.4	1.771

p_i

1960.1	1.009	1967.1	1.048
1960.2	1.010	1967.2	1.039
1960.3	1.014	1967.3	1.040
1960.4	1.005	1967.4	1.041
1961.1	1.001	1968.1	1.067
1961.2	1.000	1968.2	1.082
1961.3	1.001	1968.3	1.078
1961.4	1.002	1968.4	1.082
1962.1	0.984	1969.1	1.090
1962.2	0.987	1969.2	1.096
1962.3	0.938	1969.3	1.122
1962.4	0.986	1969.4	1.143
1963.1	0.984	1970.1	1.158
1963.2	0.990	1970.2	1.174
1963.3	1.000	1970.3	1.208
1963.4	1.006	1970.4	1.204
1964.1	1.015	1971.1	1.228
1964.2	1.017	1971.2	1.238
1964.3	1.012	1971.3	1.254
1964.4	1.014	1971.4	1.260
1965.1	1.026	1972.1	1.283
1965.2	1.022	1972.2	1.330
1965.3	1.039	1972.3	1.352
1965.4	1.047	1972.4	1.378
1966.1	1.045	1973.1	1.407
1966.2	1.054	1973.2	1.527
1966.3	1.062	1973.3	1.583
1966.4	1.059	1973.4	1.726

pI

1960.1	395.8	1967.1	614.2
1960.2	402.0	1967.2	622.1
1960.3	403.5	1967.3	634.7
1960.4	404.3	1967.4	646.3
1961.1	407.2	1968.1	664.0
1961.2	413.8	1968.2	681.2
1961.3	420.6	1968.3	697.6
1961.4	428.6	1968.4	712.6
1962.1	440.8	1969.1	726.5
1962.2	445.0	1969.2	743.3
1962.3	450.3	1969.3	759.6
1962.4	457.0	1969.4	774.3
1963.1	457.0	1970.1	785.8
1963.2	461.3	1970.2	807.7
1963.3	467.8	1970.3	816.8
1963.4	475.8	1970.4	822.9
1964.1	484.6	1971.1	840.0
1964.2	492.7	1971.2	859.5
1964.3	502.1	1971.3	870.2
1964.4	510.5	1971.4	884.4
1965.1	520.4	1972.1	910.8
1965.2	530.8	1972.2	926.1
1965.3	546.1	1972.3	943.7
1965.4	558.4	1972.4	976.1
1966.1	570.3	1973.1	966.6
1966.2	580.7	1973.2	1019.1
1966.3	592.9	1973.3	1047.1
1966.4	605.0	1973.4	1078.9

p_k

1960.1	1.033	1967.1	1.140
1960.2	1.035	1967.2	1.148
1960.3	1.034	1967.3	1.167
1960.4	1.033	1967.4	1.179
1961.1	1.029	1968.1	1.183
1961.2	1.037	1968.2	1.198
1961.3	1.044	1968.3	1.210
1961.4	1.047	1968.4	1.223
1962.1	1.045	1969.1	1.240
1962.2	1.049	1969.2	1.255
1962.3	1.052	1969.3	1.273
1962.4	1.051	1969.4	1.287
1963.1	1.053	1970.1	1.301
1963.2	1.058	1970.2	1.318
1963.3	1.063	1970.3	1.326
1963.4	1.064	1970.4	1.356
1964.1	1.067	1971.1	1.375
1964.2	1.074	1971.2	1.392
1964.3	1.081	1971.3	1.417
1964.4	1.087	1971.4	1.413
1965.1	1.090	1972.1	1.436
1965.2	1.092	1972.2	1.450
1965.3	1.096	1972.3	1.463
1965.4	1.104	1972.4	1.478
1966.1	1.104	1973.1	1.496
1966.2	1.113	1973.2	1.526
1966.3	1.122	1973.3	1.545
1966.4	1.131	1973.4	1.567

p_{na}

1960.1	1.008	1967.1	1.007
1960.2	1.008	1967.2	1.002
1960.3	1.008	1967.3	1.010
1960.4	1.012	1967.4	1.018
1961.1	1.012	1968.1	1.025
1961.2	1.008	1968.2	1.036
1961.3	1.008	1968.3	1.042
1961.4	1.008	1968.4	1.053
1962.1	1.007	1969.1	1.044
1962.2	1.007	1969.2	1.067
1962.3	1.007	1969.3	1.075
1962.4	1.004	1969.4	1.081
1963.1	1.003	1970.1	1.069
1963.2	1.000	1970.2	1.087
1963.3	1.000	1970.3	1.095
1963.4	1.007	1970.4	1.107
1964.1	1.006	1971.1	1.175
1964.2	1.003	1971.2	1.180
1964.3	1.003	1971.3	1.161
1964.4	1.030	1971.4	1.105
1965.1	1.000	1972.1	1.111
1965.2	1.000	1972.2	1.119
1965.3	0.995	1972.3	1.146
1965.4	0.985	1972.4	1.145
1966.1	0.988	1973.1	1.136
1966.2	0.980	1973.2	1.157
1966.3	0.983	1973.3	1.170
1966.4	0.983	1973.4	1.168

P_{ns}

1960.1	1.025	1967.1	1.161
1960.2	1.030	1967.2	1.168
1960.3	1.034	1967.3	1.177
1960.4	1.041	1967.4	1.186
1961.1	1.044	1968.1	1.199
1961.2	1.043	1968.2	1.212
1961.3	1.045	1968.3	1.222
1961.4	1.047	1968.4	1.235
1962.1	1.051	1969.1	1.251
1962.2	1.054	1969.2	1.264
1962.3	1.058	1969.3	1.282
1962.4	1.062	1969.4	1.301
1963.1	1.066	1970.1	1.318
1963.2	1.070	1970.2	1.332
1963.3	1.073	1970.3	1.342
1963.4	1.078	1970.4	1.356
1964.1	1.082	1971.1	1.374
1964.2	1.085	1971.2	1.389
1964.3	1.087	1971.3	1.404
1964.4	1.092	1971.4	1.412
1965.1	1.095	1972.1	1.425
1965.2	1.108	1972.2	1.390
1965.3	1.110	1972.3	1.444
1965.4	1.115	1972.4	1.460
1966.1	1.127	1973.1	1.485
1966.2	1.138	1973.2	1.517
1966.3	1.142	1973.3	1.543
1966.4	1.155	1973.4	1.581

p_r

1960.1	1.026	1967.1	1.116
1960.2	1.029	1967.2	1.121
1960.3	1.032	1967.3	1.126
1960.4	1.038	1967.4	1.132
1961.1	1.040	1968.1	1.139
1961.2	1.043	1968.2	1.146
1961.3	1.045	1968.3	1.154
1961.4	1.049	1968.4	1.163
1962.1	1.052	1969.1	1.172
1962.2	1.055	1969.2	1.181
1962.3	1.058	1969.3	1.193
1962.4	1.062	1969.4	1.205
1963.1	1.064	1970.1	1.218
1963.2	1.066	1970.2	1.230
1963.3	1.068	1970.3	1.241
1963.4	1.072	1970.4	1.258
1964.1	1.074	1971.1	1.275
1964.2	1.077	1971.2	1.290
1964.3	1.080	1971.3	1.301
1964.4	1.084	1971.4	1.311
1965.1	1.085	1972.1	1.323
1965.2	1.088	1972.2	1.334
1965.3	1.090	1972.3	1.344
1965.4	1.093	1972.4	1.355
1966.1	1.098	1973.1	1.374
1966.2	1.102	1973.2	1.389
1966.3	1.105	1973.3	1.404
1966.4	1.112	1973.4	1.420

PRI - Income of Unincorporated Business Enterprises Except Farms, Rental Payments, Net Interest

1960.1	86.8	1967.1	132.6
1960.2	87.4	1967.2	134.7
1960.3	87.9	1967.3	137.3
1960.4	88.9	1967.4	139.3
1961.1	88.6	1968.1	144.3
1961.2	90.3	1968.2	148.3
1961.3	93.5	1968.3	152.9
1961.4	95.6	1968.4	155.9
1962.1	88.2	1969.1	155.8
1962.2	89.5	1969.2	159.
1962.3	89.8	1969.3	161.2
1962.4	91.6	1969.4	163.3
1963.1	93.2	1970.1	166.2
1963.2	93.4	1970.2	170.7
1963.3	94.3	1970.3	174.9
1963.4	96.9	1970.4	177.5
1964.1	102.7	1971.1	183.4
1964.2	104.9	1971.2	187.2
1964.3	105.9	1971.3	190.8
1964.4	107.3	1971.4	193.2
1965.1	108.2	1972.1	198.
1965.2	109.0	1972.2	199.6
1965.3	110.2	1972.3	205.4
1965.4	111.5	1972.4	209.3
1966.1	116.8	1973.1	219.7
1966.2	118.4	1973.2	223.6
1966.3	118.9	1973.3	229.0
1966.4	123.0	1973.4	218.8

P_w

1960.1	1.004	1967.1	1.060
1960.2	1.009	1967.2	1.058
1960.3	1.005	1967.3	1.063
1960.4	1.007	1967.4	1.064
1961.1	1.010	1968.1	1.078
1961.2	1.000	1968.2	1.085
1961.3	1.000	1968.3	1.090
1961.4	1.001	1968.4	1.095
1962.1	1.007	1969.1	1.112
1962.2	1.002	1969.2	1.126
1962.3	1.006	1969.3	1.134
1962.4	1.006	1969.4	1.146
1963.1	1.002	1970.1	1.163
1963.2	1.000	1970.2	1.168
1963.3	1.004	1970.3	1.176
1963.4	1.005	1970.4	1.177
1964.1	1.006	1971.1	1.194
1964.2	1.001	1971.2	1.207
1964.3	1.005	1971.3	1.217
1964.4	1.008	1971.4	1.218
1965.1	1.012	1972.1	1.241
1965.2	1.022	1972.2	1.254
1965.3	1.029	1972.3	1.272
1965.4	1.036	1972.4	1.286
1966.1	1.051	1973.1	1.348
1966.2	1.056	1973.2	1.418
1966.3	1.067	1973.3	1.476
1966.4	1.060	1973.4	1.509

p_{wt}

1960.1	1.00	1967.1	1.05
1960.2	.99	1967.2	1.05
1960.3	.99	1967.3	1.05
1960.4	1.00	1967.4	1.05
1961.1	.99	1968.1	1.04
1961.2	1.00	1968.2	1.04
1961.3	.99	1968.3	1.04
1961.4	1.00	1968.4	1.05
1962.1	1.00	1969.1	1.06
1962.2	.99	1969.2	1.07
1962.3	.98	1969.3	1.07
1962.4	.98	1969.4	1.10
1963.1	.99	1970.1	1.11
1963.2	.99	1970.2	1.12
1963.3	1.00	1970.3	1.13
1963.4	1.01	1970.4	1.13
1964.1	1.02	1971.1	1.15
1964.2	1.02	1971.2	1.16
1964.3	1.02	1971.3	1.20
1964.4	1.03	1971.4	1.23
1965.1	1.03	1972.1	1.26
1965.2	1.03	1972.2	1.28
1965.3	1.03	1972.3	1.29
1965.4	1.03	1972.4	1.30
1966.1	1.04	1973.1	1.37
1966.2	1.05	1973.2	1.47
1966.3	1.05	1973.3	1.60
1966.4	1.05	1973.4	

RE - Retained Earnings (Corporate)

1960.1	9.7	1967.1	24.6
1960.2	8.2	1967.2	24.3
1960.3	6.3	1967.3	24.3
1960.4	5.6	1967.4	27.9
1961.1	4.6	1968.1	24.6
1961.2	6.8	1968.2	24.7
1961.3	6.9	1968.3	23.6
1961.4	8.8	1968.4	24.4
1962.1	16.3	1969.1	23.4
1962.2	15.9	1969.2	22.4
1962.3	16.2	1969.3	19.1
1962.4	16.2	1969.4	17.8
1963.1	15.1	1970.1	16.0
1963.2	16.4	1970.2	14.8
1963.3	16.9	1970.3	15.2
1963.4	18.1	1970.4	12.2
1964.1	20.4	1971.1	18.5
1964.2	20.5	1971.2	22
1964.3	21.2	1971.3	23.8
1964.4	20.5	1971.4	25.7
1965.1	25.8	1972.1	26.5
1965.2	26.3	1972.2	27.5
1965.3	26.1	1972.3	29.4
1965.4	28.3	1972.4	33.9
1966.1	28.6	1973.1	40.0
1966.2	29.0	1973.2	43.5
1966.3	30.0	1973.3	42.5
1966.4	29.1	1973.4	42.6

RE_m - Retained Earnings in Manufacturing Sector

1960.1	16.0	1967.1	22.8
1960.2	14.9	1967.2	22.7
1960.3	13.6	1967.3	22.3
1960.4	12.8	1967.4	23.4
1961.1	12.0	1968.1	23.3
1961.2	13.4	1968.2	23.5
1961.3	14.2	1968.3	22.9
1961.4	15.9	1968.4	23.8
1962.1	17.1	1969.1	22.2
1962.2	17.3	1969.2	21.3
1962.3	17.7	1969.3	19.6
1962.4	18.	1969.4	18.9
1963.1	17.2	1970.1	17.1
1963.2	13.1	1970.2	16.6
1963.3	18.9	1970.3	16.2
1963.4	19.6	1970.4	13.2
1964.1	20.8	1971.1	17.2
1964.2	21.2	1971.2	17.7
1964.3	21.9	1971.3	18.4
1964.4	21.8	1971.4	18.7
1965.1	24.7	1972.1	17.2
1965.2	24.5	1972.2	17.7
1965.3	24.9	1972.3	21.2
1965.4	26.3	1972.4	23.1
1966.1	25.0	1973.1	26.5
1966.2	25.1	1973.2	29.0
1966.3	25.6	1973.3	28.0
1966.4	24.9	1973.4	25.4

RR - Ratio of Excess to Required Reserves (Percent)

1960.1	2.62	1967.1	1.66
1960.2	2.51	1967.2	1.59
1960.3	3.12	1967.3	1.55
1960.4	3.93	1967.4	1.40
1961.1	3.52	1968.1	1.49
1961.2	3.23	1968.2	1.37
1961.3	3.17	1968.3	1.36
1961.4	2.92	1968.4	1.30
1962.1	2.77	1969.1	.812
1962.2	2.59	1969.2	.971
1962.3	2.65	1969.3	.814
1962.4	2.82	1969.4	.789
1963.1	2.39	1970.1	.66
1963.2	2.19	1970.2	.58
1963.3	2.33	1970.3	.65
1963.4	2.28	1970.4	.75
1964.1	1.96	1971.1	.75
1964.2	1.82	1971.2	.64
1964.3	2.02	1971.3	.62
1964.4	1.95	1971.4	.68
1965.1	1.87	1972.1	.54
1965.2	1.61	1972.2	.45
1965.3	1.79	1972.3	.57
1965.4	1.76	1972.4	.81
1966.1	1.55	1973.1	.87
1966.2	1.57	1973.2	.33
1966.3	1.68	1973.3	.82
1966.4	1.56	1973.4	.57

S - Total Sales in Private Sector

1960.1	480.5	1967.1	657.5
1960.2	485.9	1967.2	667.3
1960.3	484.4	1967.3	670.6
1960.4	486.3	1967.4	674.4
1961.1	486.0	1968.1	690.0
1961.2	490.7	1968.2	696.5
1961.3	497.7	1968.3	705.3
1961.4	506.3	1968.4	709.0
1962.1	513.0	1969.1	716.5
1962.2	521.9	1969.2	719.0
1962.3	528.1	1969.3	719.8
1962.4	532.6	1969.4	720.4
1963.1	536.7	1970.1	719.3
1963.2	541.2	1970.2	717.7
1963.3	548.8	1970.3	722.3
1963.4	554.1	1970.4	714.8
1964.1	566.3	1971.1	729.3
1964.2	572.5	1971.2	733.8
1964.3	581.0	1971.3	742.9
1964.4	580.9	1971.4	754.3
1965.1	591.7	1972.1	766.7
1965.2	602.1	1972.2	781.3
1965.3	614.0	1972.3	790.0
1965.4	627.3	1972.4	806.0
1966.1	638.4	1973.1	826.0
1966.2	639.6	1973.2	830.7
1966.3	649.1	1973.3	838.3
1966.4	649.5	1973.4	832.1

SD

1960.1	- .6	1967.1	-4.6
1960.2	-2.7	1967.2	-5.4
1960.3	-1.9	1967.3	-4.9
1960.4	.3	1967.4	-5.5
1961.1	- .9	1968.1	-2.4
1961.2	-1.8	1968.2	-2.3
1961.3	-2.2	1968.3	-4.4
1961.4	-3.4	1968.4	-4.3
1962.1	-2.6	1969.1	-4.4
1962.2	-1.5	1969.2	-6.4
1962.3	- .2	1969.3	-6.5
1962.4	.8	1969.4	-5.5
1963.1	- .6	1970.1	-8.7
1963.2	-2.2	1970.2	-7.6
1963.3	-1.2	1970.3	-5.1
1963.4	- .2	1970.4	-3.3
1964.1	- .6	1971.1	-5.0
1964.2	-1.9	1971.2	-5.7
1964.3	-3.7	1971.3	-6.2
1964.4	-4.7	1971.4	-5.9
1965.1	-5.3	1972.1	-7.9
1965.2	-3.1	1972.2	-2.5
1965.3	-1.7	1972.3	- .2
1965.4	- .5	1972.4	-2.0
1966.1	-2.3	1973.1	.2
1966.2	-4.2	1973.2	2.8
1966.3	-5.9	1973.3	3.1
1966.4	-6.4	1973.4	3.9

SocSec - Total Contributions for Social Insurance

1960.1	17.2	1967.1	37.0
1960.2	17.5	1967.2	37.2
1960.3	17.6	1967.3	38.0
1960.4	17.3	1967.4	38.7
1961.1	18.0	1968.1	40.5
1961.2	18.4	1968.2	41.2
1961.3	18.7	1968.3	42.0
1961.4	19.3	1968.4	42.4
1962.1	20.3	1969.1	45.6
1962.2	20.5	1969.2	46.4
1962.3	20.5	1969.3	47.5
1962.4	20.7	1969.4	48.1
1963.1	22.8	1970.1	48.4
1963.2	23.3	1970.2	48.9
1963.3	23.6	1970.3	49.7
1963.4	23.9	1970.4	49.9
1964.1	23.9	1971.1	55.1
1964.2	24.2	1971.2	55.5
1964.3	24.7	1971.3	56.1
1964.4	25.0	1971.4	57.2
1965.1	24.7	1972.1	61.7
1965.2	24.9	1972.2	62.6
1965.3	25.2	1972.3	63.8
1965.4	25.8	1972.4	65.3
1966.1	31.7	1973.1	77.8
1966.2	32.2	1973.2	79.1
1966.3	33.6	1973.3	80.8
1966.4	34.3	1973.4	82.5

STR - Steel Strike Dummy

1960.1	0	1967.1	0
1960.2	0	1967.2	0
1960.3	0	1967.3	0
1960.4	0	1967.4	0
1961.1	0	1968.1	1
1961.2	0	1968.2	1
1961.3	0	1968.3	1
1961.4	0	1968.4	1
1962.1	1	1969.1	0
1962.2	1	1969.2	0
1962.3	1	1969.3	0
1962.4	1	1969.4	0
1963.1	1	1970.1	0
1963.2	1	1970.2	0
1963.3	1	1970.3	0
1963.4	1	1970.4	0
1964.1	0	1971.1	0
1694.2	0	1971.2	0
1964.3	0	1971.3	0
1964.4	0	1971.4	0
1965.1	1	1972.1	0
1965.2	1	1972.2	0
1965.3	1	1972.3	0
1965.4	1	1972.4	0
1966.1	0	1973.1	0
1966.2	0	1973.2	0
1966.3	0	1973.3	0
1966.4	0	1973.4	0

T_b - Indirect Business Taxes

1960.1	13.6	1967.1	16.2
1960.2	14.1	1967.2	16.5
1960.3	13.6	1967.3	16.7
1960.4	12.7	1967.4	17.0
1961.1	13.3	1968.1	17.0
1961.2	13.6	1968.2	17.5
1961.3	14.0	1968.3	17.8
1961.4	14.5	1968.4	18.1
1962.1	14.6	1969.1	18.5
1962.2	15.2	1969.2	18.6
1962.3	15.0	1969.3	19.1
1962.4	15.3	1969.4	19.1
1963.1	15.7	1970.1	19.3
1963.2	16.0	1970.2	19.4
1963.3	16.4	1970.3	20.1
1963.4	16.5	1970.4	19.5
1964.1	15.9	1971.1	20.7
1964.2	16.4	1971.2	19.9
1964.3	16.6	1971.3	19.7
1964.4	16.6	1971.4	20.7
1965.1	17.7	1972.1	19.9
1965.2	16.7	1972.2	19.7
1965.3	16.6	1972.3	20.2
1965.4	16.6	1972.4	20.6
1966.1	17.7	1973.1	20.7
1966.2	16.7	1973.2	21.2
1966.3	16.1	1973.3	20.8
1966.4	16.3	1973.4	21.5

T_c - Corporate Income Taxes

1960.1	22.5	1967.1	30.3
1960.2	21.1	1967.2	30.3
1960.3	19.2	1967.3	30.6
1960.4	18.8	1967.4	32.5
1961.1	18.6	1968.1	37.0
1961.2	21.2	1968.2	38.2
1961.3	22.1	1968.3	38.6
1961.4	24.6	1968.4	39.8
1962.1	23.0	1969.1	40.7
1962.2	23.4	1969.2	41.0
1962.3	23.5	1969.3	39.8
1962.4	24.5	1969.4	39.3
1963.1	21.5	1970.1	34.8
1963.2	22.6	1970.2	34.9
1963.3	23.2	1970.3	35.7
1963.4	24.1	1970.4	32.0
1964.1	23.9	1971.1	34.1
1964.2	24.4	1971.2	34.8
1964.3	24.4	1971.3	33.2
1964.4	24.3	1971.4	32.1
1965.1	27.7	1972.1	34.0
1965.2	28.0	1972.2	35.2
1965.3	28.3	1972.3	36.7
1965.4	29.2	1972.4	38.9
1966.1	31.9	1973.1	46.6
1966.2	31.9	1973.2	50.8
1966.3	31.6	1973.3	57.6
1966.4	31.4	1973.4	55.7

T_p - Personal Income Tax Receipts

1960.1	42.6	1967.1	65.5
1960.2	43.4	1967.2	64.0
1960.3	43.8	1967.3	67.5
1960.4	43.6	1967.4	69.1
1961.1	42.6	1968.1	72.0
1961.2	43.6	1968.2	74.9
1961.3	44.5	1968.3	83.7
1961.4	44.8	1968.4	86.8
1962.1	48.0	1969.1	93.8
1962.2	49.2	1969.2	96.9
1962.3	49.9	1969.3	95.0
1962.4	50.1	1969.4	96.7
1963.1	50.0	1970.1	93.4
1963.2	50.4	1970.2	93.5
1963.3	51.1	1970.3	89.4
1963.4	52.2	1970.4	90.3
1964.1	51.2	1971.1	86.6
1964.2	47.3	1971.2	87.6
1964.3	48.2	1971.3	88.8
1964.4	49.3	1971.4	93.0
1965.1	53.5	1972.1	105.8
1965.2	54.8	1972.2	107.3
1965.3	53.2	1972.3	109.1
1965.4	54.0	1972.4	113.6
1966.1	57.1	1973.1	108.5
1966.2	60.7	1973.2	111.4
1966.3	63.9	1973.3	116.9
1966.4	65.7	1973.4	121.0

T_r - Transfer Payments to Persons

1960.1	21.3	1967.1	40.0
1960.2	21.8	1967.2	40.3
1960.3	22.4	1967.3	41.2
1960.4	23.7	1967.4	41.3
1961.1	24.8	1968.1	43.2
1961.2	25.7	1968.2	45.6
1961.3	26.1	1968.3	46.6
1961.4	25.9	1968.4	47.4
1962.1	26.3	1969.1	49.1
1962.2	26.3	1969.2	50.0
1962.3	26.7	1969.3	50.9
1962.4	27.7	1969.4	51.7
1963.1	28.6	1970.1	53.4
1963.2	28.0	1970.2	62.4
1963.3	28.1	1970.3	61.0
1963.4	28.8	1970.4	63.4
1964.1	29.5	1971.1	67.4
1964.2	29.1	1971.2	75.3
1964.3	29.1	1971.3	75.3
1964.4	29.4	1971.4	75.6
1965.1	29.2	1972.1	76.6
1965.2	28.2	1972.2	77.6
1965.3	32.0	1972.3	79.4
1965.4	30.3	1972.4	89.6
1966.1	32.6	1973.1	89.7
1966.2	32.6	1973.2	91.5
1966.3	34.5	1973.3	94.2
1966.4	37.2	1973.4	96.9

U

1960.1	48.44	1967.1	55.83
1960.2	46.46	1967.2	57.24
1960.3	46.51	1967.3	58.75
1960.4	46.16	1967.4	60.21
1961.1	48.19	1968.1	64.77
1961.2	49.10	1968.2	68.13
1961.3	49.27	1968.3	70.98
1961.4	49.99	1968.4	71.10
1962.1	48.58	1969.1	70.42
1962.2	46.32	1969.2	69.63
1962.3	45.98	1969.3	70.14
1962.4	44.40	1969.4	69.88
1963.1	44.39	1970.1	70.63
1963.2	44.29	1970.2	70.27
1963.3	45.11	1970.3	69.03
1963.4	45.29	1970.4	69.69
1964.1	47.30	1971.1	69.45
1964.2	45.76	1971.2	69.63
1964.3	44.74	1971.3	69.14
1964.4	43.79	1971.4	67.88
1965.1	46.29	1972.1	66.37
1965.2	47.43	1972.2	63.53
1965.3	47.03	1972.3	61.91
1965.4	46.60	1972.4	58.80
1966.1	47.49	1973.1	59.94
1966.2	48.53	1973.2	57.10
1966.3	50.51	1973.3	54.80
1966.4	51.27	1973.4	55.02

U_N - Unemployment Rate (%)

1960.1	5.20	1967.1	3.70
1960.2	5.20	1967.2	3.83
1960.3	5.67	1967.3	3.93
1960.4	6.43	1967.4	3.93
1961.1	6.80	1968.1	3.60
1961.2	6.93	1968.2	3.60
1961.3	6.83	1968.3	3.60
1961.4	6.27	1968.4	3.43
1962.1	5.67	1969.1	3.33
1962.2	5.53	1969.2	3.47
1962.3	5.57	1969.3	3.70
1962.4	5.53	1969.4	3.57
1963.1	5.77	1970.1	4.17
1963.2	5.77	1970.2	4.83
1963.3	5.53	1970.3	5.20
1963.4	5.67	1970.4	5.80
1964.1	5.43	1971.1	5.93
1964.2	5.30	1971.2	5.97
1964.3	5.07	1971.3	5.97
1964.4	5.03	1971.4	5.97
1965.1	4.83	1972.1	5.83
1965.2	4.70	1972.2	5.77
1965.3	4.47	1972.3	5.53
1965.4	4.20	1972.4	5.30
1966.1	3.80	1973.1	5.03
1966.2	3.83	1973.2	4.93
1966.3	3.80	1973.3	4.77
1966.4	3.67	1973.4	4.70

W - Total Wage

1960.1	268.5	1967.1	413.3
1960.2	272.2	1967.2	417.6
1960.3	273.3	1967.3	426.3
1960.4	271.3	1967.4	436.4
1961.1	271.2	1968.1	448.3
1961.2	276.9	1968.2	457.6
1961.3	281.0	1968.3	469.0
1961.4	286.1	1968.4	479.0
1962.1	291.2	1969.1	491.3
1962.2	296.6	1969.2	503.6
1962.3	299.2	1969.3	517.0
1962.4	301.6	1969.4	526.8
1963.1	305.3	1970.1	534.7
1963.2	310.1	1970.2	539.4
1963.3	314.3	1970.3	547.1
1963.4	318.8	1970.4	546.7
1964.1	324.4	1971.1	559.8
1964.2	330.6	1971.2	569.3
1964.3	337.4	1971.3	577.6
1964.4	342.2	1971.4	588.6
1965.1	348.2	1972.1	607.3
1965.2	353.7	1972.2	620.8
1965.3	360.8	1972.3	632.5
1965.4	370.8	1972.4	648.7
1966.1	380.0	1973.1	666.7
1966.2	387.4	1973.2	682.3
1966.3	396.7	1973.3	699.3
1966.4	405.0	1973.4	717.6

W_g - Government Wage Bill, Billions of $ Current

1960.1	47.2	1967.1	83.0
1960.2	48.2	1967.2	84.7
1960.3	49.4	1967.3	86.4
1960.4	50.1	1967.4	89.7
1961.1	50.8	1968.1	92.0
1961.2	51.6	1968.2	94.2
1961.3	52.6	1968.3	97.6
1961.4	54.0	1968.4	99.9
1962.1	55.1	1969.1	100.0
1962.2	55.6	1969.2	101.8
1962.3	56.0	1969.3	106.5
1962.4	57.1	1969.4	108.1
1963.1	58.1	1970.1	112.4
1963.2	58.8	1970.2	114.3
1963.3	59.6	1970.3	116.1
1963.4	61.4	1970.4	117.5
1964.1	62.6	1971.1	121.4
1964.2	63.5	1971.2	122.9
1964.3	65.0	1971.3	125.2
1964.4	66.2	1971.4	126.9
1965.1	66.9	1972.1	130.9
1965.2	68.0	1972.2	132.4
1965.3	69.9	1972.3	135.1
1965.4	72.5	1972.4	137.8
1966.1	74.2	1973.1	141.6
1966.2	76.3	1973.2	143.6
1966.3	79.0	1973.3	146.1
1966.4	81.2	1973.4	143.2

X - Gross National Product

1960.1	490.2	1967.1	666.6
1960.2	489.7	1967.2	671.6
1960.3	487.3	1967.3	678.9
1960.4	482.6	1967.4	683.6
1961.1	492.8	1968.1	692.6
1961.2	501.5	1968.2	705.3
1961.3	511.7	1968.3	712.3
1961.4	519.5	1968.4	716.5
1962.1	519.5	1969.1	722.4
1962.2	527.7	1969.2	725.8
1962.3	533.4	1969.3	729.2
1962.4	538.3	1969.4	725.1
1963.1	541.2	1970.1	721.2
1963.2	546.0	1970.2	722.1
1963.3	554.7	1970.3	727.2
1963.4	562.1	1970.4	719.3
1964.1	571.1	1971.1	735.1
1964.2	578.6	1971.2	740.4
1964.3	585.8	1971.3	746.9
1964.4	588.5	1971.4	759.0
1965.1	601.6	1972.1	768.0
1965.2	610.4	1972.2	785.6
1965.3	622.5	1972.3	796.7
1965.4	636.6	1972.4	812.3
1966.1	649.1	1973.1	829.3
1966.2	655.0	1973.2	834.6
1966.3	660.2	1973.3	841.3
1966.4	668.1	1973.4	844.6

X_p - Gross Private Product Originating Except Farm

1960.1	426.2	1967.1	586.4
1960.2	467.9	1967.2	638.6
1960.3	420.9	1967.3	596.9
1960.4	417.5	1967.4	601.2
1961.1	460.7	1968.1	610.2
1961.2	426.2	1968.2	622.9
1961.3	434.7	1968.3	628.7
1961.4	443.7	1968.4	632.5
1962.1	450.8	1969.1	637.5
1962.2	458.0	1969.2	641.3
1962.3	464.7	1969.3	644.3
1962.4	469.8	1969.4	640.1
1963.1	471.1	1970.1	635.7
1963.2	475.2	1970.2	636.1
1963.3	504.1	1970.3	642.8
1963.4	491.3	1970.4	633.2
1964.1	500.5	1971.1	648.1
1964.2	507.3	1971.2	654.0
1964.3	514.1	1971.3	660.2
1964.4	516.2	1971.4	672.5
1965.1	528.0	1972.1	681.7
1965.2	536.0	1972.2	699.8
1965.3	547.9	1972.3	711.7
1965.4	561.3	1972.4	726.1
1966.1	572.9	1973.1	742.3
1966.2	578.6	1973.2	749.8
1966.3	583.3	1973.3	757.6
1966.4	589.6	1973.4	757.5

X_{wt}

1960.1	116.0	1967.1	183.0
1960.2	118.0	1967.2	190.0
1960.3	114.0	1967.3	180.0
1960.4	124.0	1967.4	199.0
1961.1	120.0	1968.1	200.0
1961.2	124.0	1968.2	207.0
1961.3	121.0	1968.3	210.0
1961.4	130.0	1968.4	231.0
1962.1	126.0	1969.1	216.0
1962.2	132.0	1969.2	240.0
1962.3	127.0	1969.3	233.0
1962.4	138.0	1969.4	251.0
1963.1	130.0	1970.1	242.0
1963.2	142.0	1970.2	258.0
1963.3	139.0	1970.3	248.0
1963.4	153.0	1970.4	276.0
1964.1	148.0	1971.1	261.0
1964.2	156.0	1971.2	276.0
1964.3	149.0	1971.3	271.0
1964.4	166.0	1971.4	286.0
1965.1	155.0	1972.1	285.0
1965.2	169.0	1972.2	300.0
1965.3	162.0	1972.3	286.0
1965.4	180.0	1972.4	331.0
1966.1	172.0	1973.1	324.0
1966.2	179.0	1973.2	338.0
1966.3	173.0	1973.3	327.0
1966.4	190.0	1973.4	

Y - Personal Disposable Income

1960.1	338.8	1967.1	470.8
1960.2	341.2	1967.2	475.8
1960.3	341.8	1967.3	479.7
1960.4	339.5	1967.4	483.9
1961.1	341.8	1968.1	492.3
1961.2	347.7	1968.2	498.8
1961.3	352.8	1968.3	500.8
1961.4	359.6	1968.4	504.3
1962.1	362.6	1969.1	505.5
1962.2	366.8	1969.2	510.0
1962.3	368.5	1969.3	517.3
1962.4	371.1	1969.4	521.2
1963.1	375.7	1970.1	524.2
1963.2	378.0	1970.2	535.8
1963.3	383.1	1970.3	541.6
1963.4	388.1	1970.4	537.4
1964.1	396.6	1971.1	547.8
1964.2	406.2	1971.2	554.6
1964.3	412.6	1971.3	556.4
1964.4	417.0	1971.4	560.9
1965.1	421.3	1972.1	565.7
1965.2	427.1	1972.2	571.6
1965.3	441.1	1972.3	579.3
1965.4	449.8	1972.4	595.1
1966.1	453.5	1973.1	603.9
1966.2	454.7	1973.2	604.8
1966.3	461.2	1973.3	609.5
1966.4	466.1	1973.4	613.2

Z - Final Sales - Private Sector

1960.1	386.6	1967.1	519.9
1960.2	391.2	1967.2	527.1
1960.3	389.0	1967.3	529.9
1960.4	390.4	1967.4	532.2
1961.1	388.4	1968.1	543.6
1961.2	391.2	1968.2	548.3
1961.3	395.7	1968.3	557.3
1961.4	403.4	1968.4	560.0
1962.1	407.5	1969.1	569.1
1962.2	414.1	1969.2	572.7
1962.3	420.3	1969.3	574.7
1962.4	424.1	1969.4	575.8
1963.1	426.5	1970.1	577.0
1963.2	432.5	1970.2	578.6
1963.3	438.8	1970.3	584.3
1963.4	444.6	1970.4	577.0
1964.1	456.0	1971.1	592.6
1964.2	459.9	1971.2	597.1
1964.3	469.8	1971.3	604.3
1964.4	470.4	1971.4	612.7
1965.1	480.4	1972.1	623
1965.2	489.0	1972.2	637.3
1965.3	498.1	1972.3	648.2
1965.4	508.9	1972.4	662.5
1966.1	514.9	1973.1	681.6
1966.2	515.3	1973.2	685.5
1966.3	520.4	1973.3	693.3
1966.4	517.9	1973.4	688.0

APPENDIX D

POSTGRADUATE SCHOOL MODEL

1. $$I_{pm} = -25.81 + \underset{(.060)}{.361}\,\frac{Cp_{-1} + Cp_{-2}}{2} + \underset{(.012)}{.073}\,\frac{NI_{m-5} + NI_{m-6}}{2} + \underset{(.094)}{.083}\,\frac{L_{m-5} + L_{m-6}}{2} + \underset{(10.63)}{32.03}(p_w - p_{w-4})$$

$\bar{R}^2$	S_e	d
.987	.9842	0.82

2. $$I_{pn} = 5.96 + \underset{(.096)}{.293}(Z_{-1} - Z_{-4}) + \underset{(.012)}{.140}Z_{-5} - \underset{(.639)}{.984}i_{L-4}$$

$\bar{R}^2$	S_e	d
.9199	2.6896	1.09

3. $$I_{pf} = 5.11 + \underset{(.062)}{.069}\,\frac{1}{3}(FF_{-3} + FF_{-4} + FF_{-5}) - \underset{(.065)}{.235}K_{f-4} + \underset{(1.08)}{1.69}p_{f-1} + \underset{(.012)}{.061}t$$

$\bar{R}^2$	S_e	d
.7290	.3151	0.97

4. $$I_h = 13.97 + \underset{(.0031)}{.018}Y + \underset{(.286)}{2.53}(i_L - i_s)_{-3}$$

$\bar{R}^2$	S_e	d
.6482	1.4878	1.01

5. $$\Delta I_{im} + \Delta I_{in} = .0312 + \underset{(.0427)}{.0997} X_p - \underset{(.094)}{.483}(K_{im} + K_{in}) + \underset{(.211)}{.255} C_{d-1}$$

$\bar{R}^2$	S_e	d
.3678	2.933	1.41

6. $$\Delta I_{if} = -.993 + \underset{(.110)}{.725}\, I_{if-1} + \underset{(1.15)}{1.115} p_{f-3}$$

$\bar{R}^2$	S_e	d
.4816	.4412	1.43

7. $$\frac{C_{ns}}{Y} = .186 - \underset{(.129)}{.257}\left(\frac{\Delta Y}{Y} + .75 \left(\frac{\Delta Y}{Y} \right)_{-1} + .50 \left(\frac{\Delta Y}{Y} \right)_{-2} + .25 \left(\frac{\Delta Y}{Y} \right)_{-3} \right) + \underset{(.038)}{1.011} \frac{1}{4} \sum_{i=1}^{4} \left(\frac{C_{ns}}{Y} \right)_{-i}$$

$\bar{R}^2$	S_e	d
.9393	.0057	1.27

8. $$C_{na} = 11.39 + \underset{(.019)}{.087}(Y - Tr/p_c) - \underset{(.153)}{.210} Un + .387 C_{na-1}$$

$\bar{R}^2$	S_e	d
.9913	.8449	1.45

9. $$C_a = -17.21 + \underset{(.670)}{11.38}(Y - Tr/p_c) - \underset{(.4071)}{.4069} Un$$

$\bar{R}^2$	S_e	d
.9003	2.3741	1.26

10. $$F_i = -1.39 + \underset{(.0014)}{.034Y} + \underset{(.031)}{1.07}\,\frac{1}{4}\sum_{j=1}^{4}(F_i)_{-j}$$

$\bar{R}^2$	S_e	d
.9875	.5368	1.41

11. $$F_e = 1.56 + \underset{(.011)}{.039X_{wt}} + \underset{(.136)}{.600}\,\frac{1}{4}\sum_{i=1}^{4}(F_e)_{-i}$$

$\bar{R}^2$	S_e	d
.9722	.7643	1.64

12. $$P_{cb} = -95.23 + \underset{(.0039)}{.074pX} + \underset{(.195)}{2.38Cp}$$

$$\underset{(.238)}{-1.07}\;\frac{\frac{1}{2}Cp_{-2} + \sum_{i=3}^{5}Cp_{-i} + \frac{1}{2}Cp_{-6}}{4}$$

$\bar{R}^2$	S_e	d
.9354	3.6066	1.13

13. $$Dv = 1.86 + \underset{(.012)}{.027}(P_{ca} + D_m + D_n) + \underset{(.121)}{.733}\,\frac{1}{4}\sum_{i=1}^{4}(Dv)_{-i}$$

$\bar{R}^2$	S_e	d
.9753	.5571	1.04

14. $$PRI = -3.44 + \underset{(.061)}{.087}(\Delta pX + .75(\Delta pX)_{-1} + .5(\Delta pX)_{-2}$$

$$+ .25(\Delta pX)_{-3}) + \underset{(.022)}{1.05}\,\frac{1}{4}\sum_{i=1}^{4}(PRI)_{-i}$$

$\bar{R}^2$	S_e	d
.9930	2.850	0.74

15. $IVA = .120 - \underset{(50.01)}{462.09}\Delta p_w$

$\bar{R}^2$	S_e	d
.6422	1.3614	1.48

16. $NI_m = -43.68 + \underset{(.185)}{.270}C_{ns} + \underset{(.520)}{1.52}C_d + \underset{(.332)}{.756}\Delta I_i + \underset{(.119)}{.480}G_d$

$\bar{R}^2$	S_e	d
.9889	4.0994	1.42

17. $RE_m = 8.98 + \underset{(.044)}{.551}RE$

$\bar{R}^2$	S_e	d
.7670	1.9557	0.99

18. $N_e = 1.85 + \underset{(.00004)}{.00010}K \cdot Cp + \underset{(.041)}{.926}\frac{1}{4}\sum_{i=1}^{4}(N_e)_{-i}$

$\bar{R}^2$	S_e	d
.9820	.5546	1.51

19. $D_m = 2.92 + \underset{(.008)}{.157}(p_k \cdot K_m) + \underset{(.347)}{1.78}d_1$

$\bar{R}^2$	S_e	d
.9679	.8769	0.22

20. $D_n = -18.78 + \underset{(.021)}{.328}(p_k \cdot K_n) + \underset{(2.49)}{6.27}d_1$

$\bar{R}^2$	S_e	d
.9481	5.9031	1.15

21. $$D_f = .572 + \underset{(.0055)}{.113}(p_k \cdot K_f)$$

$\bar{R}^2$	S_e	d
.9007	.2618	0.30

22. $$D_h = -4.11 + \underset{(.0033)}{.112}(p_h \cdot K_h)$$

$\bar{R}^2$	S_e	d
.9604	.3525	0.63

23. $$T_b = 2.40 + \underset{(.0034)}{.008NI} + \underset{(.033)}{.156t} - \underset{(.0005)}{.0040}d_T \cdot NI$$

$\bar{R}^2$	S_e	d
.9533	.4467	1.67

24. $$T_c = 2.08 + \underset{(.029)}{.381}(P_{cb} - IVA)$$

$\bar{R}^2$	S_e	d
.7849	3.054	0.40

25. $$T_p = -9.00 + \underset{(.0054)}{.133}(PI - Tr)$$

$\bar{R}^2$	S_e	d
.9278	5.124	0.24

26. $$Tr = -76.26 + \underset{(.548)}{5.48Un} + \underset{(.039)}{1.22t}$$

$\bar{R}^2$	S_e	d
.9550	3.2551	0.53

27. $$p_w = .153 + \underset{(.107)}{.478}\frac{W}{X} + \underset{(.00024)}{.00026}Cp + \underset{(.137)}{.562}\,\frac{1}{4}\sum_{i=1}^{4}(p_w)_{-i}$$

$\bar{R}^2$	S_e	d
.9918	3.2551	1.00

28. $$\Delta p_{ns} = .0033 + \underset{(.164)}{.961}\Delta p_w + \underset{(.097)}{.106}\Delta p_{w-1} + \underset{(.025)}{.0165}\Delta p_f$$

$\bar{R}^2$	S_e	d
.6455	.0032	1.79

29. $$\Delta p_k = -.012 + \underset{(.406)}{.471}\Delta p + \underset{(.00015)}{.00023}t$$

$\bar{R}^2$	S_e	d
.5071	.0053	2.03

30. $$\Delta p_h = -.0038 + \underset{(.484)}{1.024}\,p_k + \underset{(.535)}{.136}I_h/X$$

$\bar{R}^2$	S_e	d
.1867	.0106	1.76

31. $$i_s = -1.51 + \underset{(.245)}{1.35}i_d$$

$\bar{R}^2$	S_e	d
.9226	.4520	0.62

32. $$i_L = .0095 + \underset{(.031)}{.130}i_s + \underset{(.032)}{.896}i_{L-1}$$

$\bar{R}^2$	S_e	d
.9850	.1751	1.69

Identities

1. $\Delta I_{in} = \Delta I_i - \Delta I_{im}$

2. $I_{pn} = I_p - I_{pm}$

3. $K_a = \sum_{i=0}^{40} (.9288)^i C_{a_{-i}}$

4. $K_h = \sum_{i=0}^{60} (.953)^i I_{h_{-i}}$

5. $K_m = \sum_{i=0}^{60} (.953)^i I_{pm_{-i}}$

6. $K_n = \sum_{i=0}^{60} (.953)^i I_{pn_{-i}}$

7. $N_e = NL - N_g$

8. $GNP = pX$

9. $X = C_{ns} + C_{na} + C_a + I_p + \Delta I_i + I_{pf} + \Delta I_{if} + I_h + F_e$

$- F_i + G$

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